COMMUNICATIONS
WORLD

ISSN: 0817-1904 The newspaper of data & telecommunications for planners and managers November 1988

Fairfax sells its video publisher to Telecom

SYDNEY — Ending months of speculation, John Fairfax Ltd has announced the sale of Electronic Publishing to Telecom as video publishing no longer fits into the company's plans. Max Pride, the publisher's general manager, finance and administration, said the company's core was publishing newspapers and magazines.

According to the general manager of Electronic Publishing, Maureen Murphy, the company would operate as a distinct profit centre, continuing to provide its Money Watch, Premium Money Watch and Snap Shot Services on Telecom's Viatel network. The associated hardware is also included in the deal, financial details of which have not been disclosed.

This purchase follows a whole series of joint ventures and other agreements entered into by Telecom since the Federal government announced its new telecommunications policy last May.

OTC joins forces with private distributor as it strives to stake early claim to intelligent networks

By Noel Bennett

SYDNEY — OTC is moving quickly to stake a position in intelligent networks (IN) which will allow new services to be provided to customers more quickly than in the past.

Also, the international carrier is conducting advanced R&D on fast packet-switching which could complement Telecom's QPSX exchange, due for trial installation in Australia in 1990. (see page 4).

According to David Charrett, executive engineer, network R&D, an essential element behind such programs was that by being in the forefront in these and other fields, OTC would be able to play a prominent role in defining new services and the accompanying international standards. If this work was not done, OTC would be an outsider, unable to influence the outcome of international deliberations to the ultimate possible detriment of its customers and Australian industry.

In its progress towards IN, OTC has installed a Tolerant Systems fault-tolerant computer, supplied by the Australian distributors, Network Solutions. Both parties are joining forces in this project with Network Solutions to manufacture and market the resulting sub-systems.

Ron Barrett, OTC engineer, instals a Number 7 Signalling System interface board in a PC as part of a Link-Level interface accessed via Etbernet

Charrett said the basic idea behind IN was to distribute the intelligence and logic within the network so the network configuration could be quickly and easily changed by either the customer or the carrier to meet their respective requirements. The CCITT Signalling No 7 protocol was being used as the platform to develop these new, enhanced services. This protocol has come into prominent use world wide to support ISDN. The future markets for these R&D efforts into providing the interface would not only be other carriers world wide, but value-added network suppliers using national carriers networks to provide enhanced value-added services to their customers.

Charrett said Network Solutions was "enthusiastic" about the venture. The managing director of the company, Richard Freemantle, said the agreement with OTC presented a strong opportunity for Tolerant Systems machines in the burgeoning field of communications by providing a means for reliable network management and their control.

The machine ran in native mode Unix with its special architecture, Communications Interfacing Processor (CIP), making it particularly suitable for providing interfaces within a network. On the fast packet-switching front, Charrett said the carrier was building a broadband network with a transmission rate of 160M-bit/sec and determining how it could be interfaced with Telecom's near-future Faspac service stemming from the QPSX exchange.

Claiming that OTC was just as advanced as any one else in the world in fast packet-switching, Charrett said the service would not only fit in with QPSX, but also with the trend towards the next generation of Lans, FDDI (Fibre Distributed Data Interface) which had a transmission rate of 100M-bits/sec, compared with

(Continued page 3)

Industry demands 'level playing field'

By Noel Bennett

SYDNEY — At a time when Telecom is vigorously pushing its Viatel videotex service, the Australian Videotex Industry Association has made equally vigorous protests to Telecom and the Federal government about the lack of a "level playing field" with the carrier.

Evidence of the interest by Telecom in expanding its present base of some 30,000 Viatel customers — a figure disputed by some Avia members — is its evaluation of a low-cost terminal, believed to be Australian-made.

Clarified

If this product proves suitable, Telecom would be able to tackle the mass market for Viatel. However, it is understood that Telecom will not supply them free to householders, as the French authorities did with the Minitel Service.

Continuing the objections previously reported *(Communications World,* October, p10) Avia has recently written to Telecom, asking for clarification of Telecom's position concerning the differentiation between basic and value-added services as stated by Senator Gareth Evans in his statement on May 25 this year on telecommunications directions and policies.

In particular, Avia raises the following points:

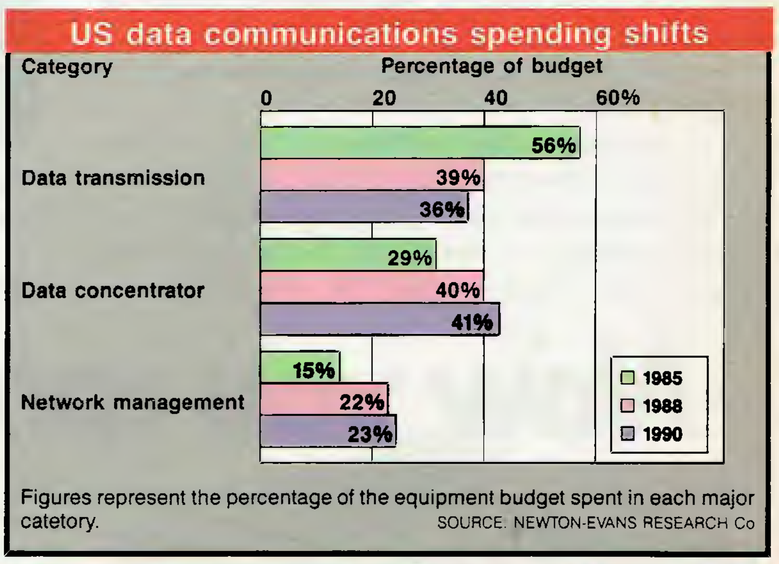
- Will competing value-added service providers be granted equal access with Telecom to Telecom's Vianet, previously only available for Viatel?

The association maintains it prefers Vianet as against the alternative Austream, as proposed by Telecom, for technical and price reasons.

- Will these services be required to pay for the use of dedicated 019 numbers as private providers are required to do?
- Will private providers be able to advertise on the same equal footing as Telecom in Telecom's directories?

These and other points have been made so that Avia and its members and Telecom can develop the Australian value-added services industry so as to reward all those participating, the association said.

US data communications spending shifts



Figures represent the percentage of the equipment budget spent in each major catetory.

SOURCE: NEWTON-EVANS RESEARCH Co

Telecom moves to initiate new Keylink services

SYDNEY — Following the split-up of the OTC/Telecom joint electronic mail venture, Keylink, Telecom has moved quickly to initiate new services in this area.

OTC and Telecom brought together their respective e-mail services, under the name Keylink, in late 1986 following the claim that OTC was infringing Telecom's charter as OTC's users were sending e-mail within Australia.

Under the new deregulation moves, OTC can now compete in value-added services with Telecom which has led to the break-up, with Telecom retaining the Keylink name.

Now, a consortium of Australian companies has developed an interface product, Desklink, for Keylink. Apart from being described as "revolutionary", Desklink is claimed to simplify the interface between PCs and mainframes for electronic messaging with new levels such as Viatel and Keylink and other business services such as Telex and facsimile.

To demonstrate the cost-efficiency of the new product, Telecom has organised a co-operative venture between Keylink, Cybersoft Corp and Netcomm to sell Desklink at under $A250.

In addition, Telecom will be releasing X.400 on Keylink which could allow Keylink to link most of the major international electronic messaging services.

Telecom claims Desklink will signal the decline of telex and facsimile with "great" savings to present users and making the service most attractive to new users.

Initially only available for PCs, the software is expected to be available for the Apple Macintosh early next year.

Developed by Cybersoft, Desklink is based on the company's Gateway/Netcomm V3.0 communications product, now being shipped internationally by Netcomm and which is working with both Cybersoft and Telecom Keylink to introduce the product to the Australian marketplace.

NEWS

Wang to use ISDN for simpler connectivity

BRUSSELS — In a series of announcements regarding communications products and strategies, Wang Laboratories has continued its drive to simplify connectivity between its own and other computer systems.

On ISDN, the company said it intended to take advantage of this evolving technology by:

- Developing transport offerings for Wang's VS computer system and the Wang PC200/300 Series of personal computers.
- Expand and advance the integration of voice, data, text and image.

The company said that while Wang Integrated Image Systems provided total integration of voice, text, data and image, ISDN would facilitate the integration of voice with other forms of information and provide the resulting services across worldwide networks. These new integrated services, low-speed telemetry, interactive voice and data and high-speed data transmission, would be of the biggest benefit to customers, the company said.

Wang was presently participating in ISDN trials with McDonald's Corp and Illinois Bell and GTE Florida. As another indication of its commitment to industry standards, Wang has introduced Interoffix, a communications gateway which allows the exchange of electronic mail and documents between Wang VS users and Unix systems, the company said. Developed for Wang by the Boston Software Works, Interoffix is said to be the latest in a set of products providing users of Wang VS Office integrated office software an easy and efficient means to share information in multivendor computing.

Interoffix is designed for those organisations which require communications and file transfer capabilities between Unix systems and proprietary systems and so allows, for example, Unix and VS Office electronic mail users to exchange mail, messages and files using the standard.

In addition to Interoffix, Wang's information exchange offerings include communications gateways to IBM's Disoss and Profs systems, DEC's All-in-1 system, industry-standard X.400-compliant systems and CCITT Group 111 facsimile machines. Also in the IBM world, Wang has introduced two new VS Access APPC products — VS Access LU6.2 API and VS Access LUS6.2 Services. LU6.2 is IBM's protocol for application-to-application communications, marketed under Advanced Program to Program Communications (APPC).

There's a whole lot of communication power locked in your computer.

All this time, the world's most powerful business communication tool has been sitting unrecognised on your desktop. Your personal computer.

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Just imagine the implications of that. No more frustrating fax queues. No more tedious typing. No more courier charges. And equally important: there are no complex commands to learn. With Desklink, you simply compose your message, select the recipient from a computerised "business card" list and put the message in an on-screen out-tray.

Then, Desklink flashes it to its destination. While you put the time saved to more profitable use. Incredible? Yes:

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every bit as incredible as the telephone, telex and fax were in their day. And probably more world-changing.

Desklink brings together the resources of Australia's top communications suppliers. Designed and developed by CyberSoft, it's the factor that makes Telecom's KEYLINK messaging system easier and much more accessible.

And to mark Desklink's launch, NetComm the nation's number one modem manufacturer is bundling it with selected modems: or as an upgrade for existing NetComm Program V2 and V3 users: or on its own.

Call the KEYLINK hotline today on (02) 261 7977 or (008) 023 223. It's startling but true: the next major advance in business communications is locked in your computer now.

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Intelligent Network Service has advanced dialup features

MELBOURNE — The new Austpac Intelligent Network Service (AINS) which Telecom is introducing to its Austpac packet-switching service is claimed to provide dialup services which are a "world first".

Further, Telecom is examining opportunities to introduce additional services, based on AINS, and for which it holds the industrial property rights with the hardware being produced by Alcatel-STC. Initially, AINS will support dialup customers so they can change their Network User Identifier (NUI) on line whenever and as often as they desire.

Also to be provided are Australia-wide access, a closed user group facility, abbreviated addressing, symbolic addressing and online service information.

Claiming the developments to be a "world first" Austpac marketing manager, Phil Hetherington, said the Australia-wide access would allow customers using a NUI to access the network from anywhere in Australia for a flat monthly fee, giving a more convenient and cheaper service to these customers.

Closed user group facilities, previously confined to leased-line customers, have been thrown open to those using dialup lines and in effect creating a low-cost entry private network operation, Hetherington said.

Abbreviated addressing allows NUI customers to choose their own simple short address to represent the longer standard Austpac address.

Other developments for NUI customers include an online Austpac service information facility and, for would-be customers, AINS lifts the number of NUIs which can be supported by the network to some 100,000.

Hetherington said Telecom was looking for solutions and studying future service enhancements for the AINS system to support both dialup and dedicated Austpac services to provide better data communications for its customers.

Telecom extends Teletex service to Europe

MELBOURNE — Teletex, Telecom Australia's text communications service which allows the transfer of information through a wide range of incompatible computing systems, now has international links.

Through a co-ordinated services agreement between OTC and Telecom, Teletex users are now able to access other Teletex users in France, Norway, Denmark, Sweden, West Germany and Belgium with more countries soon to be added to the network.

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Entry into EDI 'must be driven by business reasons'

By Noel Bennett

SYDNEY — The momentum of interest in Electronic Data Interchange (EDI) is snowballing, driven by the demands of international trade and the need to remain competitive. And this technology, combined with Electronic Funds Transfer, is also seen as the way business will be performed in the future. However, while EDI is only made possible by technology, computers and communications and accompanying standards, speaker after speaker at a recent seminar organised by I I R Pty Ltd and endorsed by EDICA (Electronic Data Interchange Council of Australia) reiterated that getting into this field should be driven primarily by business reasons.

The amount of interest being shown in this new way of doing business, already being vigorously pursued in Europe and in the US, was attested to by the some 125 attendees at the two-day conference, Profiting From Paperless Transactions. Director of Systems, New Zealand Customs Department, Tony Mort, in saying that "EDI will change the way we do business in the future," both for government and commercially, nationally and internationally, noted one of the essentials of this system as being: "In this age of information overload, the goal should be to interchange information, rather than duplicating it."

Not a technical issue, but rather one of management strategy, Mort said the customs' use of international EDI standards could exercise the same benevolent data dictatorship over commercial computerised policies as had happened in other areas in the past. However, there were some intrinsic difficulties to overcome: the need for fundamental reassessment of legal concepts and, until EDI become truly open, the problems it might present were not known at this stage.

Indeed, the unclear legal situation could inhibit the true potential of EDI.

However, the creation of the European single market in 1992 would most certainly bring about an EDI law. As to the reasons for changing over to EDI, Mort said the massive reduction in the enormous amount of paperwork now processed would inevitably lead to reduced costs and more efficient, healthy companies.

General manager, administration, Derrick Ehmke, of the Coles Myer K-Mart Group, said the company believed it would achieve significant productivity gains and most importantly, EDI would help to improve control of inventory "which is really what retailing is all about."

Full co-operation and a close working relationship with suppliers was expected so as to help with the more complete implementation of the EDI system.

> 'Let no one doubt that EDI/EFT will happen'

If the systems, organisational infrastructure and management commitment were not in place, then "EDI merely becomes a faster postal service."

The retailer had 29 "live" suppliers and expected to add a further 25 by the end of the year with benefits including: reduction in clerical work and paper handling, improved accuracy, information transfer speeded up and improved lead times leading to increased sales, and inventory reduction.

Also, production runs would be optimised and the service level offered by all parties would be enhanced.

In the longer term, the retailer would consider implementing EDI in many other activities such as customs and shipping documentation, the automative industry and banking and finance. On the amalgamation of EFT and EDI, the technical executive of ANZ Electronic Network Services, Alex Barnett, said EDI/EFT permitted information or funds to flow faster with greater precision between buyers and sellers, so avoiding the old "the cheque is in the mail" paper-based system.

To overcome any objections to this change in the way payments were made, Barnett suggested that, for example, since the supplier would be paid in 10 days instead of 40, the supplier could offer a discount to the buyer as a compensation for this earlier payment. The ANZ Bank believed the major EDI players were not yet ready to integrate EFT into their EDI systems.

However, if the banks formulated an adequate business case, their system development might precede marketplace requirements and so the banks could drive EFT into EDI, rather than simply reacting to their customers' demands.

One option of carrying this out would be for the banks to get into the value-added network arena, not a major move as they already had a continuous investment in huge computer networks.

The chief manager, electronic business services, Commonwealth Bank, Geoff Chapman said in the US, banks had been "unbelievably slow" in coming to grips with the EDI revolution, but their views were now changing rapidly.

Banks now recognised that if they did not get into the information processing business and provide a value-added network for their customers, the third party or value-added network suppliers presently carrying the purchase order and invoice messages, would pouch this business and the banks would only be left with the payment transactions.

Australia 'two years behind'

By Noel Bennett

SYDNEY — Australian business groups should be pushing more for electronic document interchange (EDI) rather than allowing it to be the sole province of equipment and network vendors, according to Al Dunn, independent UK consultant.

EDI should be regarded primarily as a business application and the various bodies interested in its promulgation should be more concerned about this aspect rather than concentrating on technical issues, he said.

Dunn, who conducted two-day seminars in Sydney and Melbourne on EDI for Management Technology Education, said in an interview that Australia was some two years behind other countries in EDI, but lessons could be learned from overseas mistakes and experiences.

For example, in the area of standards, the US was going down the road of running proprietary solutions under the X.12 umbrella, as it had been difficult to institute a common standard, while the European Commission was following the OSI/Edifact path as a standard — one standard being imperative due to EC countries becoming one nation for trade purposes during 1992.

Dunn said companies should get their own businesses operating correctly first. They could then better appreciate what EDI could accomplish for them.

The advantages included an improved competitive position compared with organisations not using this facility, as well as a more effective internal organisation.

Although international forces were shaping up to help common carriers retain their monopolies in determining what could and could not be carried over their networks, Australia would have to determine whether this policy was in its best interests.

Such policy considerations would have to determine the intrinsic nature of value-added services and how EDI fitted into such a definition.

Some organisations, such as banks, used such extensive networks that carriers would say these organisations were in the networking business, while the organisations themselves said they were only network users.

If telecommunciations were not deregulated, this would be a dampener on innovation. Dunn claimed that restrictions imposed by the Federal government in the telecommunications field had forced some overseas companies to choose not to set up in Australia.

Common carriers should be enablers, not ends in themselves, and so allow free innovation in areas such as EDI, which were basically business applications.

In his Management Technology Education seminars, Dunn said there was a strong push in Europe towards complying with OSI standards, pushed by the European Commission and large consortia networks.

While IBM's SNA was "not dead", the relationship between this architecture and OSI was becoming much closer.

With a strong push towards the use of EDI for electronic interchange of drawings, as in Cad/Cam applications, ISDN was becoming another factor in the communications cocktail.

PSI develops a fast Viatel gateway

SYDNEY — PSI Computer Systems has developed a high-speed Viatel gateway, presently being used by Specidata, which is said to allow Viatel to be used as a low-cost national communications network.

PSI claims the gateway transforms Viatel from being a slow-response, largely static-screen system to a fast interactive network, with access to outside databases.

A PSI director, Alf Papallo, said that on costs, the new system's maximum is about 10c a minute, or about $6 an hour, with most other services costing about $12 to $15 or more an hour.

Buildcost, the building trade information service, developed by PSO for Specidata, is being used to support the members of various organisations in the industry and PSI says other systems using the gateway are under development.

OTC stakes IN claim

(Continued from page 1)

prevailing Lan speeds of 10M-bit/sec.

While at this stage it was difficult to foresee all the services which could be provided by such technological innovation, one application was in videoconferencing and here, OTC was searching for an industrial partner to join the carrier in developing techniques for this application.

As an indication of the pace of technology, Charrett said 18 months ago such fast packet-switching transmission rates were in the "blue-sky" category, but it was likely that standards would be set in 1991 for traffic in the 1000 to 1500M-bits/sec range.

briefs

Ericsson sponsor

MELBOURNE — L M Ericsson is the principal sponsor of the $A3 million Australian Electronics Development Centre established by the Victorian government.

The government has earmarked $A1 million of funding support for the centre, to be located within the Broadmeadows grounds of L M Ericsson, while the company, at this stage, has contributed more than the same amount.

The company also said it is the first time in its history that it has made a highly developed and sophisticated technology and data available to outside sources.

Network for Tonga

CANBERRA — Australia is developing a communications network for the Tonga Defence Service under the Defence Co-operation Program.

The Minister for Defence, Kim Beazley, said the estimated $A700,000 project was scheduled for completion by an Australian Army team by the end of November.

The network would link Tonga's land bases and vessels, enhancing operational co-ordination and maritime surveillance in the region, he said.

"An effective communications network is a key element to the development of Tonga's maritime surveillance capacity."

Spacecraft contract

SYDNEY — Intelsat and Ford Aerospace have signed a $394 million contract for delivery of five Intelsat VII spacecraft.

Each of the five spacecraft will incorporate the latest technology, including new features such as independently steerable C-band spot beam antennas that provide maximum flexibility and allow Intelsat to reposition each satellite to accommodate increased communications traffic from specific locations.

Also, a third K-band antenna will enhance flexibility by permitting Intelsat to switch transponders among different satellite receiving dishes. This will accommodate increased communications traffic and extend K-band international services to new areas.

The Intelsat VII spacecraft will provide features particularly attractive to Pacific Ocean region users, including the ability to provide simultaneous Ku-band coverage of three areas in the region, which can be altered while the spacecraft are in orbit.

AAP adds multiplexers

SYDNEY — AAP Reuter now has what is claimed to be the largest private satellite voice/data network in Australia following the incorporation of 21 General Datacomm Megamux voice/data multiplexers supplied by Datamatic Pty Ltd. The multiplexers integrate with AAP's satellite earth station network and terrestrial microwave links and support both PCM and ADPCM as well as integral echo cancellation ensuring the best possible voice performance. A Datamatic spokesman said the multiplexers were also suitable for videoconferencing.

NEWS

Many carrier policy issues yet to be resolved

By Noel Bennett

SYDNEY — Although determined that it will set the policies to be followed by the three national carriers, the Federal government is also aware that even after the liberalisation moves, many policy issues have yet to be resolved.

However, at the same time, user groups and others see that major changes are required in areas which the government apparently considers sacrosanct.

At a Sydney seminar conducted by Management Technology Education, the Minister for Telecommunications and Aviation Support, Gary Punch, said some of the policy issues to be resolved included:

- Whether private earth stations should be allowed to receive signals from foreign-owned or controlled satellites in the context that Intelsat was facing increasing competition;
- The possible effects of the next World Administrative Telephone and Telegraph Conference;
- The ability of smart telephones to take on the characteristics of small business systems;
- Intelligent network services could further change the balance between customer premises equipment (CPE) and network services; and
- The effect of the yet-to-be determined industry development arrangements for the CPE industry.

Earlier, the minister noted at the seminar, Deregulating Telecommunications, the government had decided to allow full competition in the value added services (Vas) and CPE market with carriers being able to participate fully in both markets. But the carriers would be required to show that there was no cross-subsidy from their monopoly services to competitive services.

In his paper, the chairman of Atug, Tony Staley, said the government, and quite properly so, would set the policy which Austel would administer and hoped that this regulatory body would not be left to the lawyers any more than to engineers.

Users could also be encouraged that Telecom would no longer be in the unchallengeable position of using community service obligations (CSOs) as a blanket and amorphous argument against change.

But Staley said: "Atug believes that the list of services which is reserved to Telecom is far too long and that Telecom's monopoly should have been restricted to its basic public switched services.

"The ability to interconnect private networks with the public switched network is vital (for the entrepreneurial and customer-oriented private and government business or service organisation).

"For similar efficiency reasons (as argued by those who want the ability to interconnect) rather than from any desire to become a competitive common carrier against Telecom, major users wished to resell spare capacity on leased lines."

Staley also said users' interests would be served by the immediate introduction of a second cellular mobile network, which would also help to swell Telecom's coffers as the great majority of such calls interconnected with the public switched network.

Tom Amos, founding partner in Amos Aked Swift Pty Ltd, in speaking on Value Added Services: A New Business Opportunity? said that without the CSO argument, it would be hard to justify Telecom as a natural monopoly, especially in the face of rapid technological change.

"The providers and users of value added services (Vas) need to understand what change is and how best to provide services in an industry which is not marketplace controlled, but under the eye and influence of benevolent autocrats," he said.

"The boundaries of carriage and content control will continue to be grey as the Vas both uses and then competes with the monopoly supplier of Van (value added network) carriage services."

Amos said a basic services provider, which had a monopoly on a Van service, must be viewed as a definite risk to the provision of Vas service to a third party.

The Vas supplier should seek or construct Vans to deliver their services which were:

- Independent of the CSO.
- Not owned by reserved service suppliers.
- Able to supply incremental raw capacity.

Amos said Vans based on Aussat capacity was the only area where this was possible.

Third party traffic 'in Australia's interests'

SYDNEY — Allowing third party traffic would appear to be in Australia's interests, according to Bob Wynne, manager, communications services, Westpac Bank. Speaking at the recent Management Technology Seminar, Deregulating Telecommunications, Wynne said a new attitude was required in view of international competitive pressures.

The key to Electronic Document Interchange, a new way of doing business, was the interchange of data between major users of the network and the routing of some of this data to another party. "It would seem to be Australia's interests to allow third party traffic, to charge the private networks for volume usage and to forget the emotive catchcries of 'resale of spare capacity'," Wynne said.

"We must be able to exploit technology in order to remain competitive and Australian businesses want to be able to compete and to maintain whatever leadership they have established".

Deregulation could assist rather than restrict the mututal interests of the bank and Telecom and a business-oriented Telecom was "good news".

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Booming growth for Telecom's Digital Data, Auspac services

MELBOURNE — While Telecom's long-established Datel service has seemingly reached a plateau of growth, the carrier's Digital Data Service and Auspac services are booming.

Also, cellular mobile telephone has jumped ahead, significant as the Australian Telecommunications Commission, in its 1987-88 annual report, says that increasing demands are expected for facsimile and data services to be available on the cellular mobile radio services network.

The report shows that operating profit jumped 75.2 per cent to $776 million with revenues registering a 19 per cent increase to $7200 million. Rate of return on assets employed rose to 12 per cent.

In data services, Datel modems in operation increased only 0.2 per cent to 103,962. However, the number of network terminating units provided for DDS jumped 49.1 per cent to 52,489 and the number of outstations for Austpac hurdled 53.3 per cent to 6015.

Staggering was the growth of number of cellular mobile services in operation — a 614.9 per cent rise to 31,622. New standard telephone connections rose 4.2 per cent to 643,834.

Under Serving Our Corporate Customers, the report says DDS is now Telecom's key data communications product and in a multi-million-dollar program, cross-connection and control systems are being installed in major DDS centres to give both long-term cost reductions and customer features including network reconfiguration and disaster backup.

Future developments outlined include:

Integrated Services Digital Network (ISDN)

To be launched during 1989, a range of new ISDN facilities are planned in keeping with the aim to broaden the service from its initial focus on corporate customers to include the wider business community.

About one year after the ISDN launch, Telecom will make available direct ISDN connections through the microlink access service to include: reliable, secure dialup access to corporate host facilities, access to packet switched facilities at speeds up to 6k-bit/sec for high-speed file transfer, image transfer and multi-media access to remote expert services and/or information services.

Queued Packet and Synchronous Switching (QPSX)

Commercial services for QPSX are proposed for early 1990 to meet the growing need of customers to handle higher-speed services in more flexible and responsive ways. The technology will allow metropolitan and wide area switching networks to be established using 34M-bit/sec or higher transmission rates to support both synchronous and high-speed packet streams simultaneously.

Self-healing and other features will ensure high orders of reliability and availability and network management features will allow for advanced customer control facilities. The services to be offered will be known as Fastpac.

Broadband Networks

The integration of all telecommunications services, including interactive and distributed video, low and high-speed data and voice, on to a broadband version of ISDN is a world-wide trend, requiring the appropriate switching technologies and optical fibre transmission to the customer's premises.

Appropriate technical requirements are due to be initially set for this service by CCITT by the end of 1988 with more detailed recommendations in 1992.

Digital Metropolitan Service

This service, offering many of the benefits of DDS to small to medium-size customers with relatively straightforward data communications requirements, will be available from 1988-89.

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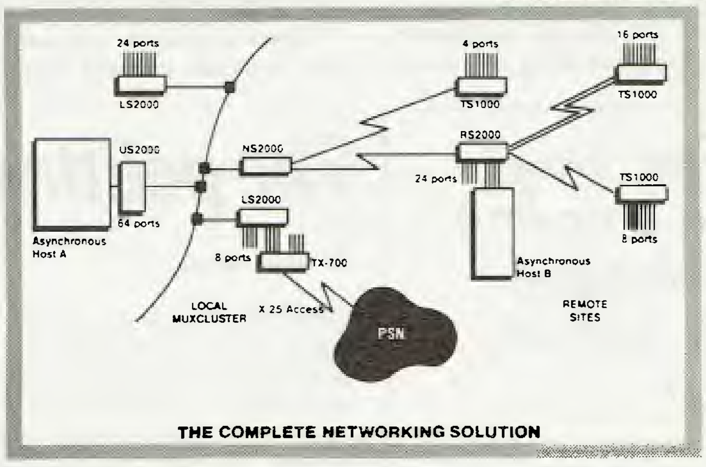

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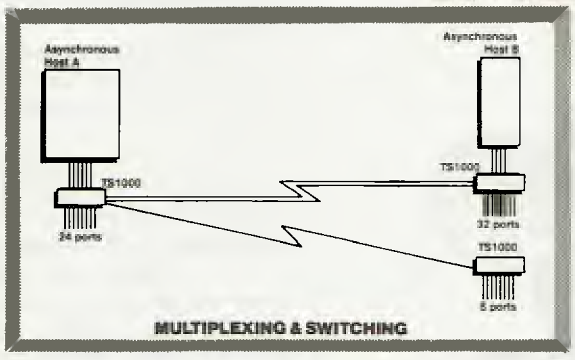

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DPX 2

ETHERNET IS A XEROX TRADE MARK

OPINION

Information is power, so Austel's role will be crucial

REPORTS from the US say other industries are rushing in to provide all-embracing network facilities patterned on the lines of two American airlines. These airlines instituted reservation systems, then sought and received patronage from travel agents as well as other airlines.

Regulations have curbed some of the resulting ploys — obtaining a window into other carriers' traffic patterns and ensuring that the respective carriers' services appeared at the top of the travel agent's screen.

However, despite these curbs, other competing airlines still consider they are disadvantaged and the rewards of being a semi-monopoly in supplying and controlling information are apparently still attractive to enterprises in other industries. These events starkly illustrate the truism that ownership of the sources and control of dissemination of information is power when there are no equal and effective countervailing forces to provide alternatives.

The Federal government has determined that, in keeping with its communications policies, Austel is to be the arbiter of what is fair and reasonable in Telecom's conduct so that its strengths, market position and community obligations do not prevent or hinder competition, where allowed.

One of the unfortunate consequences of an expanding and increasing complex economy is that to ensure equity, bureaucracies must be established to ensure that "good is done".

Given that such bodies are a necessity, although their number might be open to dispute, the prevailing government can still influence their effectiveness by simple budgetary means: By not providing the funds necessary to allow them to do their allocated tasks properly and thoroughly.

Some bodies are complaining this is the case. And funds are not the complete answer, for such bodies could be subjected to political interference to "call off the dogs" to protect "sacred cows".

The world of telecommunications, both nationally and internationally, is undergowing profound growth not only in traffic volumes but in the range of new services available. Today's blue-sky product manifests itself as a product of tomorrow. Electronic Document Interchange, for example, is quickly gathering adherents, practitioners and, combined with EFT, has the promise of completely changing the way business is done.

Improvements in videotex services will provide greater opportunities for niche information providers while the consumer at home could benefit by opening up the radio channels and, yet to be decided, television channels.

These are but a few of the new applications and services which, by simplifying the process of information sending and receiving, will cut like a knife through long-established ways of doing things.

Accordingly, since information is power, more so now than ever with telecommunications being the linchpin in not only the economic health of the community, but also the welfare of the individual, governments need to ensure that Austel is staffed by independent-minded persons of the highest calibre with sufficient funds to carry out their job.

The future for business and individuals will be bleak if they do not.

Look after things while I'm attending this challenging, in-depth tutorial, will you?
ASSISTANT COMMUNICATIONS MANAGER
Phil Frank

The politics of management

By Eric Schmall

EFFECTIVE communications managers regard their roles in much the same way as political candidates. Success in either field depends on identifying the various audiences served, knowing how to appeal to their interests, and translating their needs into action.

A political candidate will be elected if his or her strategy is based on an accurate perception of the different groups that make up the electorate. The candidate tailors programs that match these groups' interests.

A communications manager who fails to distinguish the various segments of his or her "public" is headed for considerable trouble.

Who does the manager serve? First is management, which directs and evaluates the manager's performance. Keeping the boss happy is of fundamental importance.

But satisfying this requirement alone does not assure success as a communications manager. Users — the people who rely on voice, data or image systems — have to be given top priority. A communications manager who tries to placate superiors without regard to user satisfaction cannot succeed.

Users can be considered the political equivalent of voters in this analogy. While all users, like all voters, share common concerns, it is critical to recognise that there are differences in their needs.

Some groups in an organisation are more dependent on voice network facilities to perform their duties. Some require local access; others need extensive outbound STD access. A customer service group is heavily reliant on 008 services and automatic call distribution operations. An investment group needs specialised ring-down circuits providing instant access to financial markets.

Some groups may be host-dependent or critically tied to other department databases via local-area networks. Some groups need voicemail to enhance their productivity; for others, electronic mail is more effective.

A modern political candidate has to formulate a set of policies that address issues as diverse as agriculture, urban development, defence and health care.

The communications manager has to develop an equally wide-ranging agenda. House wiring, STD services, protocols, vendor selection and integration of voice/data services represents just a few. The sum of all approaches on these topics must be merged into a coherent communications strategy.

This challenge provides the greatest opportunity for success in both telecommunications and politics. The individual who can translate various groups' needs into an integrated set of solutions achieves consensus-builder status.

Successful managers synthesise the needs expressed by these groups with their policies and programs. They enlist the support of the various groups by pointing out the potential rewards their solutions offer.

COMMUNICATIONS WORLD

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Communications World is part of the IDG Communications group, which includes sister publications *Network World* (US), *Telecoms International* (France), *Communications World* (Spain), *Communications* (UK), *Communications World* (NZ and Hong Kong).

ADVERTISING:
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PRODUCTION:
Manager: Max Jaeger
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Publisher: Laurie Zaat

Communications World is published by
IDG Communications Pty Ltd

Managing Director: Alan Power
Directors: Patrick J McGovern, Axel Leblois

IDG Communications Pty Ltd also publishes: *Computerworld Australia; Australian PC World; Australian Macworld; Digital World; Government computer news, Network, Publish!.*

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Communications World is published monthly and distributed to qualified charter subscribers in the communications industry

Printed by Offset Alpine Pty Ltd

IDG COMMUNICATIONS

OPINION

The phone technology is whizz-bang, but actually getting through is a different matter

COATES' NOTES

By Stephen Coates

THE last thing I want to do with this column is to make it a forum for bashing Telecom Australia. However, a few incidents have happened during the last week that do deserve mention.

The office where I usually reside is equipped with a Commander system, you know, one of those systems that is "better for business". But because of the antiquated crossbar and step-by-step equipment at the local exchange, all of the lines use decadic signalling.

Ever since I started working at that office, there has been a persistent problem of "no progress" — where I dial a number and nothing happens, along with a scattering of wrong numbers reached, congestion tones and excessive noise on the line, among other problems.

Last week, trying to call a computer company in Melbourne for future articles I am researching, I dialled the number over 25 times over the course of an hour. Being the patient person I am, I would note several faults before reporting this to 1100. I tallied five occurrences of no progress and 20 congestion tones on different exchange lines dialling this Melbourne number — during the lunch hour. I even had a number of faults attempting to call 1100!

Because of the delay encountered when reporting faults to 1100, and at times the fault reporting service itself being unavailable to accept fault reports, many faults go unreported, and the figures Big Orange (Telecom) accumulates on fault occurrences are well below the actual figures.

The staff who man (oh excuse me, person,) the 1100 service sometimes lack the understanding of the telephone network to record the fault accurately. If the number one is trying to call is an indial number, 1100 operators cannot verify the number, and may even claim that it does not exist!

For all the annoyances resulting from problems trying to make calls through the Telecom network, they are only amplified by the situations that occur with some of the suppliers I have corresponded with for the features I write from time to time.

If the recipients are to be believed, Australia Post delays my correspondence to them as effectively as they do for the proverbial cheque that is, of course, in the mail. At times such as these, facsimile is such a blessing.

But what is more amazing is what happens when trying to contact some of the most senior technical staff at some of the major PABX vendors. While these very people go to such lengths to promote the capabilities of their PABXs to switch data, pool modems, support remote concentrators, and, of course connect to the ISDN, they neglect, or are unable, to set the rudimentary features of call diversion on no-answer and call diversion on engaged, on their own extensions!

Thus a caller seeking information on all the whizzbang features of these fifth, sixth, and seventh generation PABXs will have to dial the person's indial number repeatedly, after a busy tone is received, or listen to it ring, and ring, and ring.

Even switchboards let calls ring dozens of times before answering them. One major car rental company gives customers $A5 off their rental if the phone rings more than five times. The application of such a policy would bankrupt many communications equipment and computer suppliers, and would send Big Orange to the World Bank!

And of course, there are those people who think they are so important, they return only every fifth telephone message they receive. The next time I let a tender, I will be tempted to tell suppliers that if they fail to return calls, they will not even make the short list.

It is also amazing the number of people who have supposedly worked in the industry for a number of years and do not know the correct pronunciation of the word route. Check any dictionary, it is the same as "root".

More serious, however, is the reluctance of a few suppliers to respond to a brief survey, which will result in their products being compared with those of their competitors. Is such a supplier really confident that its product stacks up? A supplier comparison often accompanies features that I write. If a supplier is not listed, it is not because I did not contact it, it is because it could not be bothered to respond.

The problems I encountered calling a Melbourne number that I discussed earlier in this column occurred when I was trying to contact a supplier. And I said I did not want to bash Big Orange (not much, anyway).

Well, there are a lot of good people working there, and a supervisor at the 1100 fault reporting centre was able to place the call for me, something they do not normally do — and my contact was out having lunch.

Network management: The missing link in OSI

By James Herman

AFTER 10 years of communications industry efforts to define Open Systems Interconnection protocols so that diverse computers could exchange data easily, it finally dawned on everyone that the goals of standardisation could not be met without standardising network management interfaces.

Now, just when OSI proponents thought they had a nearly complete set of protocols for building vendor-independent networks, they have to go back to the drawing board to define vendor-independent network management protocols. Users will not build networks out of OSI components if they cannot manage them.

Meanwhile, IBM can claim that OSI is not ready yet and that Systems network Architecture and NetView constitute a more complete and mature solution. Most observers agree that usable OSI net management standards will not be defined for at least 18 months. By then, IBM hopes to significantly improve NetView.

Standardising network management will take a long time because it requires standardising content as well as format. Defining other elements of the OSI protocols primarily involved format conventions. But the actual hardware and software data that will be exchanged for network management purposes must be defined.

For example, there must be a way of uniquely identifying any piece of network equipment in any network. There also has to be an agreed upon list of parameters, alarms, counters and commands that applies to each piece of equipment.

Further, network management requires an even finer level of detail in which each component and subcomponent of each type of equipment is defined. Network management standardisation requires the equivalent of a data dictionary.

There is a precedent for this level of standardisation in the electronic document interchange (EDI) arena. Here, too, standardising the format of the messages is not sufficient. Part numbers and descriptions must also be standardised.

> *'Network management requires the equivalent of a data dictionary'*

EDI standardisation has largely proceeded on an industry-by-industry basis, with the retail, insurance and transport industries taking the lead in standardising the data items they need for common business transactions.

The same sort of group effort is beginning to occur with network management. The official standards committees are working on the management data definition problem for OSI protocol software — for example, X.400, TP and X.25.

This will not, however, result in a definition of management data for non-OSI software or for network equipment that does not contain protocol software, such as circuits, modems, multiplexers and private branch exchanges.

The recently formed OSI Network Management Forum will tackle that problem and seek agreement on the data items needed to manage networks using the new standards. To succeed, members of the forum must co-operate and reach a consensus quickly. They also must make sure that their work meshes well with work being done by other groups.

A similar effort is under way to define a management data model for Transmission Control Protocol/Internet Protocol systems. Individual vendors are beginning to specify what they need to manage their own equipment.

Clearly we still run the risk of having many different network management standards. There will most likely be overlapping sets of definitions, as happened with EDI standards. Three to four years from now, there will be major efforts to reconcile the different data models.

If there is a lesson to be learned from all of this, it is that network management must be part of the functional requirements for all new standards and service definitions.

● *James Herman writes, teaches and consults on telecommunications technology in Cambridge, Mass.*

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C & C — the integration of Computers and Communications has long been a major goal of technologically advanced, market aware companies such as NEC. Whilst technological advancement has been rapid, the practical realisation of C & C has lagged — until now.

OAI — or Open Application Interface now opens horizons dreamed of but considered impossible in the past.

The OAI feature consists of physical interface between a PABX system and external computer system, and various software blocks within the PABX.

The major block within the PABX is the actual interface software providing the interface management. The key, however, to the interaction between PABX and computer is the modularity of the main PABX software. Only this allows efficient and manageable interaction.

Likewise, the major software block within the computer system is the application library, allowing off-the-shelf or custom application packages to be easily integrated into the system.

The OAI feature is soon to be introduced on the NEAX 2400 series range of systems comprising the NEAX 2400 IMS and SDS models. This provides from two to more than 20,000 extensions.

Whilst these systems are powerful, feature-rich, voice and data switching systems, their features were, for the most part controlled only internally. OAI now gives the user control over these features and the ability to actually create features as applications arise.

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Modern business presents ever-changing situations presenting computing and communications problems that must be solved. In the past, business has often had to bitterly suffer these situations or put up with cumbersome best-fit.

Now, OAI stands ready to provide user flexible solutions. Solutions that can be tailored by the customer to provide exactly that which is required — not just a best-fit.

What are the applications of OAI?

Quite simply, they are virtually limitless. Almost any communications/computing problem confronting business today, and tomorrow can be solved using OAI.

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NEC

NEWS

Bank faces the challenge of an ever-changing technology

By Noel Bennett

SYDNEY — Ken Willett paints a graphic picture of how a major bank has to master major complexities of fast-changing communications technologies to stay ahead in providing benefits to shareholders and maintaining loyal and satisfied customers. ISDN (Integrated Services Digital Networks), a major change in the carriage of traffic with accompanying need for appropriate terminating equipment to be installed, is on the drawing boards for next year and Electronic Document Interchange, only a whisper a few short years ago, is now demanding attention.

And banks are not only concerned with nationwide traffic between branches and ATM and EFT/POS applications, but down to the small businessman doing his banking at home. Once terrestrial, this traffic is also being carried by satellite and in keeping with the acceleration towards globalisation, networks have to be established to ensure that overseas branches can easily communicate with other overseas banks and institutions.

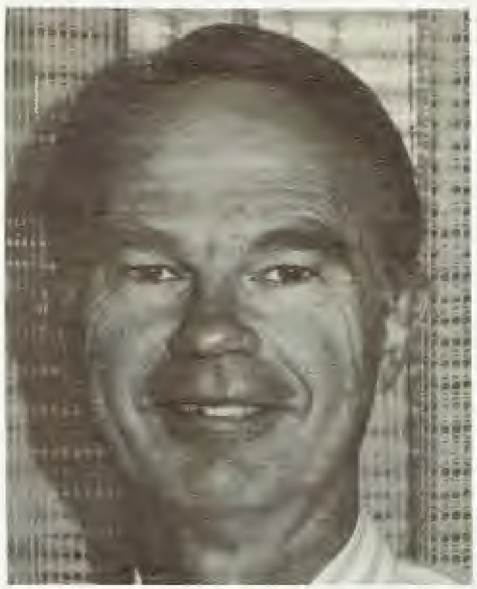
Also, the traffic being carried is now not only voice and data, but is being compounded with the advent of facsimile and video. Willett is general manager, DP, Commonwealth Bank of Australia. The bank has presumably pleased its shareholder, the Commonwealth government, with its latest balance sheet which has reportedly shown pre-tax profit rising to a record $A623 million.

But with increased competition from other banks and financial institutions, the bank — and its competitors — have to be extremely careful in their planning of networks. This is not only because of the large costs involved, but also as networking itself has become a keen-edged competitive tool.

As Willett said: "We have to be careful (not to enter) a blind alley as the technology is changing so quickly and the cost of networking development is so great that a very comprehensive planning exercise is needed as you cannot afford to get it wrong". One ingredient of "getting it right", avoiding any blind alleys, is: "DP must work closely with the business side of the bank to know its strategies so that we do not receive any surprises as to services required which will grossly affect the network".

Other ways of ensuring no surprises is co-operative planning with the bank's mainframe supplier, IBM, with bank staff paying periodic visits to other development sites to gain a view of where the track is leading, up to two years hence. The bank also consults and collaborates with the internal carriers, Telecom and Aussat, as to what services they will be also offering down the track.

Convenient examples are that the bank will be participating in ISDN trials with Telecom next year — and knowing that ISDN was to be available enabled the bank to plan the installation of digital PABXs to replace overloaded existing exchanges and to take advantage of ISDN when it arrives.


Ken Willett . . . 'you cannot afford to get it wrong'

With Aussat, the bank was the carrier's first customer in 1987 for its Starnet service, establishing a pilot service and, proving to be highly successful, the bank is now engaged in a large expansion program.

Beginning with the core or hub of the network, the large central production site in the CBD of Sydney is to be backed up by a new site at a mid-western suburb replacing the one at Rosebery, where the bank leases premises from IBM. The sites, to be equipped with new large IBM mainframes together with new peripheral units and communications controllers, will communicate via fibre-optic cable and 134M-byte microwave links.

On the branch side, nodes in each capital city, apart from Hobart, hub the respective State branch network with traffic then coming into the Sydney sites via duplicated Telecom DDN lines, with an arrangement with Aussat to also provide backup links for voice during the day and bulk transfer at night.

These new satellite links will be operational during 1989 and the final second stage will see earth stations on the bank's major premises on the mainland, according the bank complete control of this network. Other attractions of satellite transmission include the very wide bandwidth available and the high reliability of the service.

Reliability was proven in the previous use of Aussat's Starnet private data communications network in the pilot study involving four branches in Darwin and Sydney. This network is to be expanded to 14 branches with up to 100 being connected over the next two years. These connections will mean less reliance by branches, remote from major telecommunications routes, on the terrestrial network, providing a possible viable alternative to installation of additional landlines to cope with increased traffic volumes.

As another illustration of the versatility of satellites, in this era of the image, the ability to broadcast one-way video via the Starnet link is also attractive. With ISDN, all State head office branches are gradually being equipped with digital PABXs to take advantage of this network with interconnection preventing any bottlenecks occurring at one node, in effect creating one diverse, nationwide network for data, voice, facsimile and video, if and when required.

Further, the ISDN network will enable the bank to optimise on the cost of the present high-speed DDN network and, as Willett pointedly said: "Banking is about information and information transfer and therefore you have to control the costs in handling that information."

Internationally, the bank has major offices in London, New York, Tokyo, Frankfurt, Hong Kong, Singapore, Los Angeles and Chicago. Each office has its own computer centre, catering for, inter alia, that country's banking regulations with the present "fairly unsophisticated" methods for data inter-linking and connection to Sydney being examined with the long-term view of instituting a more cost-effective network which would integrate both voice and data.

For direct service for its customers, the bank provides both independent and inter-bank networks. On the ATM side, the bank, for example, is interconnected, computer-to-computer, with Westpac's ATM network, providing customers of both banks with "fall-back-positions", in the event of any one network failing. The Commonwealth Bank has just on 900 ATMs installed.

The bank's home banking service, Telebank, has proved to be "very popular" with small businessmen who can conduct business after hours, while Phonebank, based on voice response is attracting a wider section of the community with its low cost and simplicity.

As to EFT/POS, the bank has its own network but interchanges with all major players and with another EFT service, EFT/POB (Point Of Banking). Agreement has been reached with the Australia Post to link post offices, which are agents for the bank, into the bank's network. This online service will give both the AP and the customer much better information and service than they now receive.

On future developments, Willett notes that the bank is examining automating the whole of its branches' functions.

ATMs and front office functions are already automated, so that, for example, head office would be better able to place staff where best use can be made of their skills and capabilities: Interactive computer-based training could also be on the agenda.

Behind such moves is the fact that at present, every terminal access is transmitted back to the database in Sydney head office. But as long-haul transmission bandwidth is used more cost-effectively, traffic could be distributed overnight from each regional centre with the opportunity then to transmit relevant administrative information through the regional centre out to each branch.

Besides reducing network loads, this tactic would provide interactive help facilities and, with other attributes, fit in with the goal of increased branch automation.

On other future trends, Willett said the bank is "very interested" in the facilities promised by EDI as they appear to be "limitless". The thinking is that most business matters relate to information of one kind or another with presumably much of this information relating to money, that is, the banking system. EDI would "simplify procedures and rationalise these services".

Also at present, programs have to be sent to branches via copying to floppy disks, a lengthy procedure with 1500 copies required, whereas the network could be used to broadcast these programs overnight with resulting savings and more immediate receipt by all branches.

As to the complexity of fitting together these networks, resembling in some ways a giant spider web, Willett said no project proceeds as simply as originally planned. The pilot ISDN tests, for example, are not expected to be easy.

OTC in $15 million deal in Vietnam

SYDNEY — OTC International is vigorously pursuing exports, coming home with a $A15 million joint investment deal with Vietnam, which follows recent South Pacific Forum approval to build a satellite telecommunications network in the region.

Under the Vietnam deal, OTCI and the nation's Directorate General of Posts and Telecommunications (DGPT) will use the investment to build two new Intelsat Standard A satellite earthstations and associated equipment in Hanoi and Ho Chi Minh City.

OTC will also instal a temporary earth station to serve Hanoi while the larger installation is being built.

The new agreement builds on an earlier relationship between Vietnam and OTCI with the construction last year of an OTC satellite earth station in Ho Chi Minh City.

Under the new agreement, OTCI will also improve those sections of the Vietnamese network between major provincial cities which link into the international sector.

Asians more positive about switch service

By Noel Bennett

SYDNEY — While Satcom Systems' South-East Asia agents were quickly signing up clients for the company's comprehensive switch service for telex, facsimile and e-mail, Australian users were more reluctant to come to the party.

Administration manager David Staume said this reluctance could stem from the newness of the technology, although it was very simple to use, and from most companies having invested in facsimile, telex and hardware/software for e-mail.

In Malaysia, Asian Computer Services plans to introduce a Satcom service following similar action by other agents in Hong Kong, Japan, Taiwan and Singapore (*Communications World*, August, p1).

Staume said Satcom System users could reduce transmission costs from Australia to Hong Kong, for example, by about 20 to 30 per cent compared with OTC's charges.

Satcom provided clients with frontend software for $A250, installed on an IBM PC or compatible, and charges were based on the volume of traffic only, with no minimum or monthly costs involved.

Satcom has received approval from both Telecom and OTC to provide the service. It plans to introduce new software for color screens, and negotiations are under way for software to be developed for Apple Macintosh machines.

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LOCAL NETWORKING

PC AND TERMINAL-TO-HOST LANS, GATEWAYS, MICRO PRODUCTS

Melbourne Central project management supported on Novell

By Laurie Zaat

PROJECT management for the $A800 million Melbourne Central construction project is being provided by a software system supported by a Novell network. The system, Primavera, and the network, have been installed by Melbourne consultants Workware Australia. The system spans four floors of the building and provides common access to a large team of construction consultants.

Many of the larger contractors have additional lines provided to connect them directly to their own minicomputers in their company offices. Workware marketing manager David Shaw said the complexity of the project and the number of parties involved led to the installation of the system.

"We installed the Novell network to connect a number of computers spread over the building to cut down on communication problems," he said. "Users of the system vary from light designers to architects and quantity surveyors."

Workware has been involved with the Melbourne Central project from its inception, as specialists in networking to the construction and legal professions. While Shaw described Primavera as a non-specific project management system, he said it had been widely accepted by major construction companies in Australia, including Holland Stott, Jennings, Lewis and Girvan.

Workware managing director, Clive Flory, described his company's involvement with the landmark building project as "very special", and a tribute to the company's client support.

OSI announcements boost open net movement

By Mary Petrosky

IBM's Open Systems Interconnection announcements and the adoption of OSI as a US government acquisitions standard have given the open network movement a boost. But vendors say users should not expect proprietary nets to disappear soon.

Suppliers of computer and network products cite a litany of shortcomings in OSI specifications as the key reason why users will stick with vendor-specific networking schemes for the foreseeable future.

OSI specifications are lacking in areas such as network management, transaction processing and internetwork routing, according to vendors.

Another problem with OSI is that so many different implementations are possible, noted Mark Calkins, vice-president of marketing for Novell.

In trying to create standards that are "all things to all people," the standards bodies have allowed for a range of options at each layer of the OSI model. In so doing, they have perpetuated the interoperability problem, Calkins said.

Despite these shortcomings, user demand for OSI-based products is rising, vendors agreed.

"OSI is affecting users' planning decisions," said Bernard Guidon, network systems group marketing manager at Hewlett-Packard Co. Users would not buy from a supplier that was not committed to OSI, except perhaps IBM, he said.

This attitude is somewhat naive, vendors maintain. Users need to understand what OSI will and will not buy them.

Where OSI really shines today is in its implementation in the Manufacturing Automation Protocol, Guidon said. The Manufacturing Messaging System within Map, for example, provides communications between process controllers, numeric control machines and other factory devices.

"The Map set of services are better than the ones you can find from proprietary computer suppliers," he maintained.

However, in the office environment, such OSI applications as File Transfer, Access and Management (Ftam) and X.400 cannot really compete with more feature-rich proprietary file-transfer and messaging applications, Guidon said.

When it comes to sending files or messages from one vendor's equipment to another's, the OSI applications are "good enough," Guidon said.

Ftam and X.400 messaging are all that OSI will offer for the next several years, according to Douglas McLean, network services product marketing manager at Apple Computer.

"If users want to implement a transaction-processing solution or if they need to do network management, OSI is not going to offer that for the foreseeable future," McLean cautioned.

Initial co-existence

Although the intention is to make OSI a full-function network, "it is going to take the industry quite some time to get there because the standards process is Byzantine," McLean added.

In the meantime, vendors are walking the fine line between promoting their own networking architectures and products and making a commitment to OSI.

IBM, for example, advises its customers to use Systems Network Architecture to connect IBM equipment to other IBM equipment. And if there is "another vendor's box or network that also needs to be tied into the SNA network, our first choice would be to have that box connected via SNA," said Donald Holtz, OSI and distribution products manager for IBM.

OSI is IBM's solution for links to vendors that have not implemented an SNA connection, Holtz said. "We have chosen OSI to be the vendor-neutral way of connecting other vendors' products into ours."

Holtz claimed SNA's network management and network-layer protocols were stronger than their OSI counterparts and, therefore, provided more functionality. OSI-based net management was not yet fully defined, Holtz said.

Even when completed, the OSI network management specificaton will have limitations, Holtz said.

The scope of OSI net management is confined to managing only OSI-based devices. NetView, by contrast, can manage network devices, as well as more generalised computer resources such as disk drives and printers, he said.

Digital Equipment Corp seems to have made a stronger commitment to OSI by promising to incorporate OSI into Decnet. "Our rule of thumb with OSI has been that we will initially co-exist and ultimately replace the DEC proprietary protocols as long as we do not compromise either function or performance," said Robert Bradley, technical staff member in distributed systems strategic planning at DEC.

DEC has already determined that the X.500 Directory Services are inadequate for use within Decnet, Bradley said. X.500 is "fairly rigidly structured" and is best suited for communications between networks, said Dennis Cannon, DEC's electronic mail product planning manager.

For example, Decnet has a facility called the naming service that allows all objects on the network — including computers, disk drives and files — to be addressed. A related service tracks information about individuals on the network.

X.500, by contrast, handles addresses for individual users only. X.500 does not so far allow for private directories, but DEC's directory services do, Cannon said.

One area that OSI does not really address today is personal computer networking, according to several vendors in this segment of the market. File- and print-sharing functions, for example, do not exist in OSI, said Douglas Tsui, a strategic marketing manager for 3Com Corp.

"I do not think users understand the dilemma they have," said Paul DePond, director of product marketing for systems software at Ungermann-Bass. He pointed out that personal computers represent the largest number of devices on most networks today.

The bottom line, vendors agreed, is that users will move to OSI when the need for interoperability outweighs the benefits of a vendor's proprietary products.

Although OSI functionality will increase as more pieces are defined, vendors will always maintain proprietary offerings, McLean said. Vendor-proprietary architectures will continue to evolve and improve while OSI protocols are being developed.

As a result, the standards bodies will have to "backfill" the standards with functions that "get invented in the proprietary architectures", McLean said.

'US behind Japan in optical computing'

By Mitch Betts

WASHINGTON — The US is in danger of handing the Japanese another triumph in advanced technology. This time it is optical computing and networking, according to a study the prestigious National Research Council released recently.

Although the use of fibre optics for long-haul communications is commonplace, the future markets for optical processing are in high-speed local-area networks and metropolitan-area networks, advanced computer architectures and optical storage, the report said.

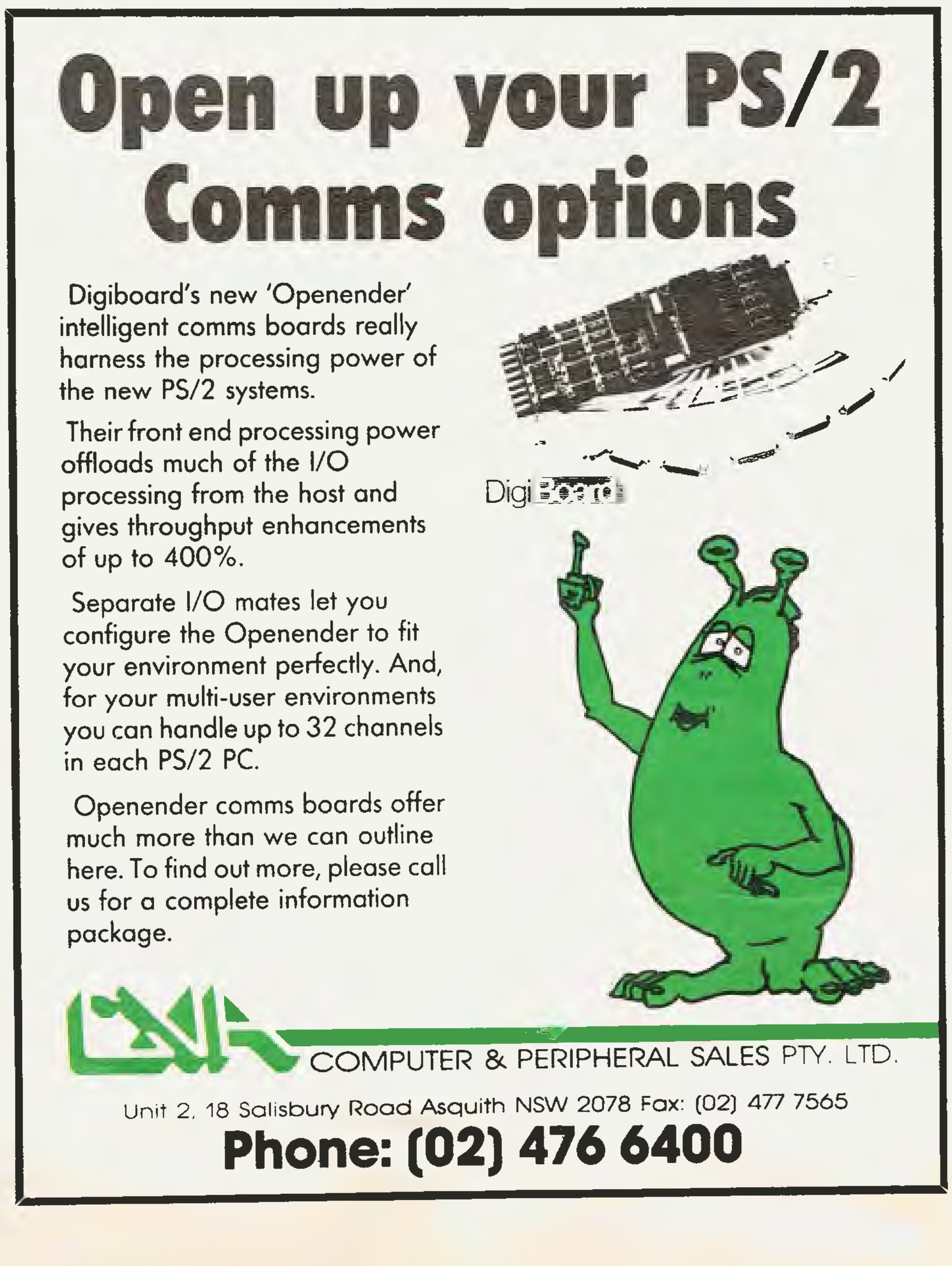
For example, a $US1 billion to $US3 billion market is possible if the copper wires in the nation's local telephone networks are replaced with fibre optic cables to support a broadband integrated services digital network.

In this technology, known as photonics, the US "has been a leader in research and invention, but it is already a follower — or worse, an observer — in the development of many of the commercial products of the field", the study concluded.

To reverse this trend, the research council called for sustained private and government research, improvements in manufacturing processes to bring down costs and the creation of a national demonstration project.

Robert White, president of the National Academy of Engineering, which commissioned the study, said Japanese opto-electronic technology is more advanced than US technology, and Japanese companies have been able to get salable products to market faster than have US companies.

"Photonics is at a stage where high-temperature superconductor technology may be 10 or 15 years from now," White said, suggesting that the US needs to learn how to commercialise photonic technology so it can apply the same lessons in superconductors.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LOCAL NETWORKING

Nation's largest auctioneer opts for an inhouse network

SYDNEY — Mason Gray Strange (MGS), Australia's largest auction and valuation group has installed a Novell network to process its auction, valuation, mailing and general ledger business operations.

The new system, developed by Axis Technology in Advanced Revelation, replaces a system developed in 1978, running on an HP3000 bureau.

It incorporates more than 120 functions including stock control, auction sale lotting and catalogue printing, buyer invoicing, vendor accounting and payment as well as maintaining the company's trust ledger. Ten workstations are connected to the network to allow data entry, enquiry and printing.

"The system provides a significant improvement in work throughput, reduces our dependency on outside agencies and will pay for itself within 18 months," said Les Davies, administration manager, Mason Gray Strange.

In addition to the inhouse auction system, MGS has six Toshiba 3100/3200 portables which are used for on-site sales. Information is keyed into the network and then loaded to a Toshiba, the sale is processed at the outdoor location (printing buyer invoices etc) and finally, all updated information is loaded back to the network for payment of vendors.

"An in-depth evaluation of processing options was carried out last year, allowing MGS to ascertain the most appropriate direction for computing in the company," said Howard Lardner, a director of Axis Technology who developed the software and assisted MGS in implementing the system.

"We spent 12 months researching in detail every process required for a successful auction and how these would be best handled on a computer system," Davies said.

The networking option provided "expandability without obsolescence" and after reviewing several networking systems, Novell was selected as the de-facto standard of the professional networks available.

Advanced Revelation provides the benefits of a 4GL with relational database and query language, plus it allows complex programming to be carried out in R/Basic so the developer never becomes "locked in".

A mailing system was developed to print labels for prospective auction buyers — based on selected categories of goods, while a sophisticated general ledger system has been implemented to report on the group's multiple companies, departmental profit and loss and balance sheet status.

"Additionally, we have installed a number of PCs using Hewlett Packard Laserjet II printers, for word processing of valuations and related documents," Davies said.

"The new system will significantly assist the fast-growing auction group to further expand the company's business in the coming years," said Hugo Eisdell, managing director, MGS (NSW).

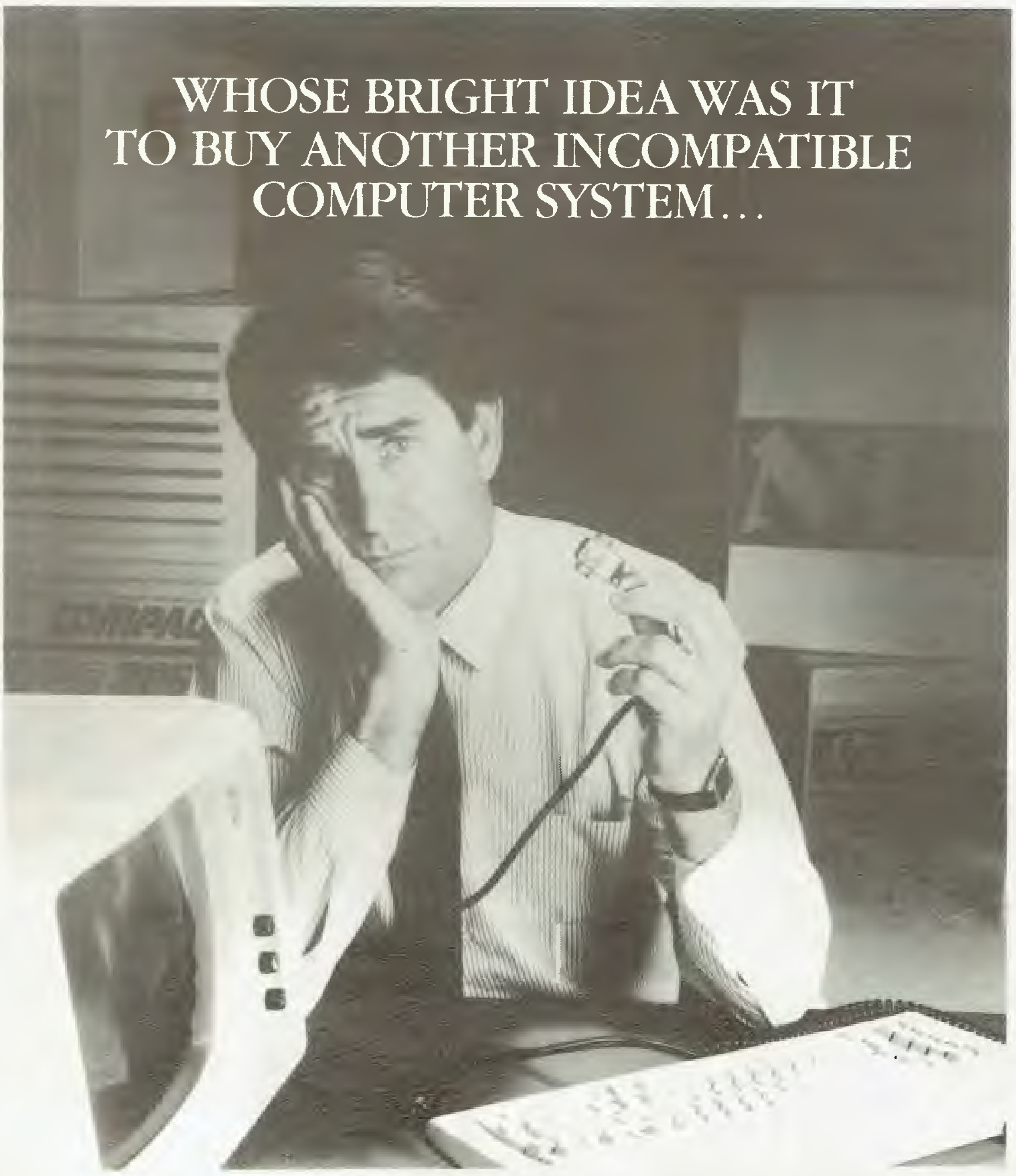
"Geoff K Gray was the first Australian auction house to instal a computer system in 1978, using a commercial bureau. Howard Lardner has been responsible for the development and enhancement of the company's computer system over the past 10 years," said Davies.

"The decision to bring our operations inhouse was mainly due to a combination of expense and inconvenience. The bureau proved an extremely inconvenient method of storing and retrieving data, compared with the fast response time of the inhouse system," said Davies.

"The move from the bureau was made department by department, beginning with the simplest — our general ledger system in October last year, and finishing only recently," he said.

"The networking of our inhouse system has been extremely successful, enabling us to handle a greatly increased volume of work without having to add any extra staff," said Davies.

The new system has been running at Rosebery since March this year, was recently installed at the company's Rocklea, Queensland office, and will be implemented in Victoria next month. Branches in Waterloo and Alexandria are being connected to the Rosebery system via Telecom lines.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Access/One chosen for Shell's new building

SHELL Australia has placed a $A500,000 order on Data Bridge Communications to provide the communications backbone for its new corporate headquarters building.

The network delivery system, Access/One was designed by industry leader Ungermann-Bass and will be installed throughout the corporation's new Spring St building.

Data Bridge managing director Philip Mellett said one of the winning features of Access/One was its use of low-cost twisted-pair wiring.

"While we were up against stiff competition, it appears the major benefit of Access/One was its ability to carry the company's existing token ring Asychronous and Ethernet systems on the one cabling system. It also provides a gateway into Shell's head office mainframe," he said.

Into the next decade

Shell is looking for a data communications system which will take the corporation into the next decade, said Shell's telecommunications development manager, Steve Lambourne.

"With a five-year strategy in place, we are not interested in ad hoc solutions, but are actually working to transform our Spring St building into the first facility to take advantage of our new network. Other sites throughout Australia will be developed in the next few years," he said.

"The Access/One system provides a much better network management scheme," Lambourne said.

Mellett said this was a further major installation of Access/One which was released in Australia in May this year.

If only all telephone systems were expandable.

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This modularity also contributes to the MD110's proven success in networking in small and large business. You can link together the most remote (as well as the not-so-remote) premises into a common communications system. This speeds up internal communications and brings better efficiency to your whole organization. There's functional upgradeability as well, with a full range of software support systems. The MD110 opens up a whole new world of datacoms too, including the creation of new Local Area Networks, the interconnection of existing LAN's and sharing of data resources by anyone in the network.

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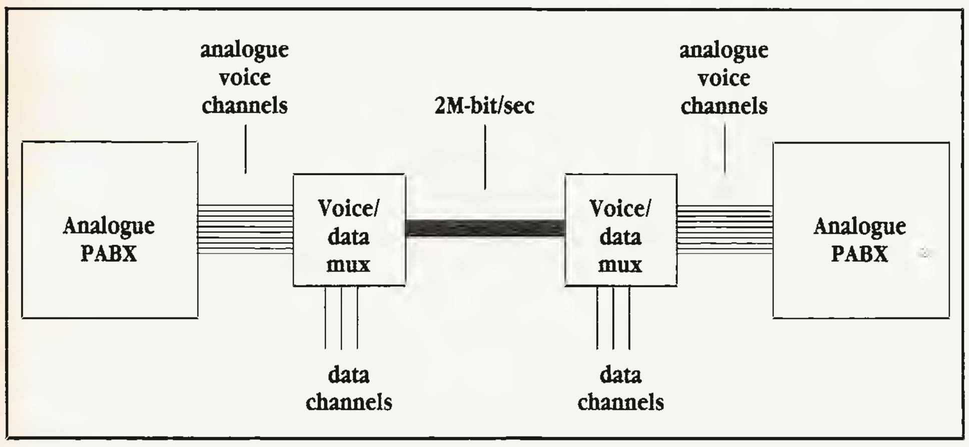

Figure 1

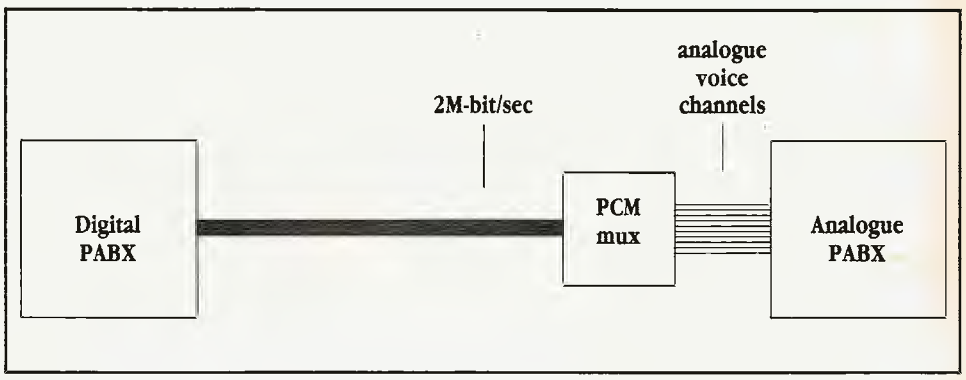

Figure 2

By Stephen Coates

SINCE its introduction more than five years ago, Telecom's Megaband service has enjoyed widespread customer acceptance and steady growth. The introduction of ISDN is certain to bring much greater demand for this 2M-bit/sec (megabits per second) service.

Reasons for the use of 2M-bit/sec services can broadly be grouped into four categories: PABX vendor support, multiplexer supplier support, user community awareness, and the worldwide trend for users to take a greater degree of control over their own communication systems.

Megaband was first trialled in 1982, and formally offered two years later. There are now about 500 Megaband services installed, the most of them being intra-city short-haul services.

Megaband tariffs underwent a major restructuring about two years ago, but have been relatively stable since then. In 1985, an intra-city Megaband service paid for itself with fewer voice or data circuits than an inter-city service, a situation that remains with the current tariffs.

> *‘Not one vendor in Australia has reported installing a 2M-bit/sec link to a model of PABX other than its own’*

But in line with the move towards cost-based tariffing, intra-city tariffs have significantly increased whereas inter-city charges have decreased slightly (see table).

One significant change the table does not illustrate is the dramatic drop in Perth-to-East coast tariffs. The annual rental for a 2M-bit/sec service has dropped from about $A850,00 to just under $A270,000.

While this can obviously be attributed to the availability of 2M-bit/sec satellite services, Aussat, which charges about $A300,000 a year for a 2M-bit/sec link between capital cities, does not actually sell many such services. Aussat account manager Peter Webb explained that they had several customers leasing services with bit rates between 48K-bit/sec and 2M-bit/sec, for example, 1M-bit/sec. Telecom does not offer such services.

A variation to this concept is illustrated with Figure 2. Here, a digital PABX has a 2M-bit/sec interface, connected with a Megaband service to a PCM (pulse code modulation) multiplexer, which can have up to 30 analogue voice channels, for connection to an analogue PABX.

An alternative to conventional multiplexing is the drop and insert technique (Figure 3). This uses a multiplexer which inserts data into one or more 64K-bit/sec timeslots which the PABX, connected to the multiplexer with a 2M-bit/sec link, has not used.

Yet another application of a Megaband service is to have the PABX provide one or more dedicated data channels which are permanently assigned to the 2M-bit/sec link. Although framing overhead reduces the bit rate provided to the user to 48 or 56K-bit/sec, providing a data channel on a Megaband service by this method is usually less expensive than if external multiplexers are used.

Megaband is available throughout Australia, wherever there is the Telecom infrastructure necessary to support it. Repeaters are available for longer exchange to customer site cable runs, if necessary. Megaband radio services are also available.

So what is the future of Megaband? Terry Philgren, Telecom's marketing manager for megaband services, said that all future services would migrate towards the ISDN, and as ISDNs primary rate access used a 2M-bit/sec bit rate, such services would see considerable use in years to come.

Higher speed services have been available for a few years now, but for the immediate future, these will remain individually engineered, and tariffed, services.

With the looming controversy over a standard signalling protocol, gradual deregulation, more sophisticated PABXs and multiplexers and primary rate ISDN followed shortly by wideband ISDN, 2 megabit per second services will have not only a big, but also a very interesting future.

Since the introduction of Megaband, 2M-bit/sec support has become almost a standard feature of medium-sized to large

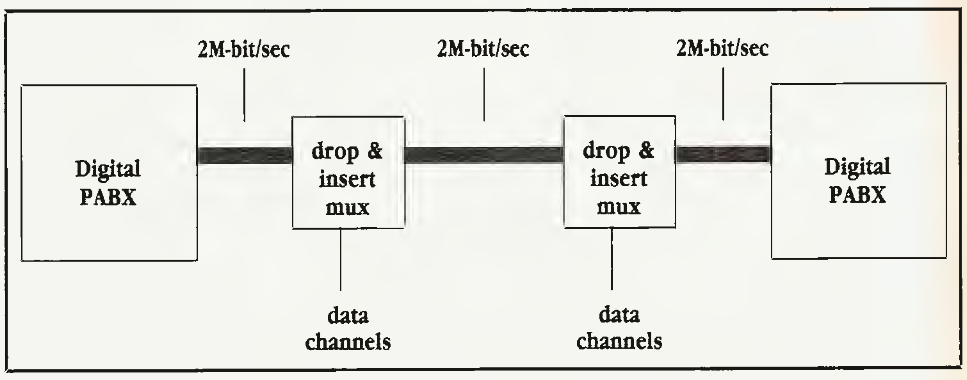

Figure 3

Company orders 200 switching systems

HELSINKI telephone Co has signed an agreement with Nokia Telecommunications for delivery of DX 200 ISDN switching systems during 1990-95. The exchanges are said to be the first to fully comply with the international ISDN standard. The contract is valued at more than 60 million.

With commissioning of the exchanges, HTC will be able to provide ISDN services throughout the Helsinki area by the mid-1990s. Compatibility with the recently published CCITT Blue Book standard will enable HTC to offer endusers the possibility of using terminal equipment from various suppliers.

The DX 200 exchanges will also be equipped with Centrex facilities which will open up new telecommunications handling possibilities for businesses in the region.

Helsinki Telephone Co serves 600,000 subscribers in the Finnish city, where telephone density is among the highest in the world.

HTC's plans include installation of about 350,000 subscriber lines by 1995.

Nokia Telecommunications focuses on systems for public, mobile and dedicated telecommunications networks, with annual sales of some $US5.5 billion.

Keeping option open on private net protocol

WELLINGTON — Telecom NZ is keeping its options open with regard to a private network protocol on the planned ISDN network.

Spokesman John Yarrall said in his view there is a potential market in New Zealand for private network operation on the public network, between PABXs run by the same company. Australian Telecoms's TeLinc is one option, but a similar offering, the Digital Private Network Signalling System, has been developed by British Telecom, he said.

Both protocols use the 16k-bit/sec signalling band of ISDN to operate a common numbering scheme over several PABXs, so that an extension in another office can be called as though it were on the same switchboard and an ISDN channel established between the two.

Asked whether the support of TeLinc by the Fujitsu/Telecom Australia joint venture would be likely to influence the decision, he said such factors would obviously be taken into consideration.

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TELECOMMUNICATIONS

ISDN expected to produce much greater demand

PABXs. But simply having a 2M-bit/sec interface is far from the end of the issue.

As the table shows, there are a number of signalling systems in use, and as the ISDN becomes closer to reality, this issue assumes increasing importance.

Telecom recently announced TeLinc as its protocol for signalling to the ISDN. But none of the PABX vendors has announced any plans to support TeLinc. One said that the TeLinc test equipment was being manufactured by Siemens and would be extraordinarily expensive.

Another commented that most of the private suppliers would be reluctant to support a signalling protocol yet to be adopted outside of Australia. Telecom staff responsible for TeLinc support could not be reached for comment at the time of this writing, despite many attempts.

As the table shows, UK developed DPNSS signalling support has been announced by several vendors. This is apparently widely used in Europe, where several vendors reported 2M-bit/sec links between their own PABXs and other models, usually using DPNSS.

Interestingly, not one vendor in Australia has reported installing a 2M-bit/sec link to a model of PABX other than its own. While one might be tempted to conclude this interworking is difficult to implement, it is primarily the result of companies in the market standardising on a single PABX vendor.

The use of Megabank links is not restricted to PABX to PABX connections for voice traffic. A number of multiplexers from data communications equipment suppliers, are capable of multiplexing analogue voice and/or digital data channels over a 2M-bit/sec link (Figure 1).

PABX SUPPORT OF 2M-BIT/SEC INTERFACES

Supplier	PABX	2M-bit/sec Support	Protocols Supported
Alcatel-STC	5200 BCS	available 1989	proprietary based on Q.931 (LAP-D)
GEC-Plessey	ISDX	yes	DPNSS CAS
LM Ericsson	MD110	yes	DPNSS CAS (Telecom T6) ISDN (Telecom TPH 1856)
Philips	Sopho-S	available mid 1989	DPNSS
IBM Australia	Rolm CBX-II	no	

Note: CAS is Channel Associated Signalling

MEGABAND SERVICE COST COMPARISON — 1985 vs 1988

Route	Service	1985 tariffs	1988 tariffs
Sydney-Parammatta	Megaband	$4000 + $17,000/yr	$4400 + $33,276/yr
	E&M tie-line	300 + 1220/yr	1040 + 3900/yr
	9.6K-bit/sec DDS	1000 + 9636/yr	1210 + 6384/yr
Sydney-Melbourne:	Megaband	20,000 + 234,000/yr	30,800 + 205,344/yr
	E&M tie-line	300 + 11,600/yr	1040 + 12,000/yr
	9.6K-bit/sec DDS	1210 + 10,000-17,000/yr	1210 + 9500-15,000/yr

Breakeven Points	Service	1985	1988
Sydney-Paramatta	Voice	19	12
	Data	4	7
Sydney-Melbourne	Voice	23	20
	Data	23	24

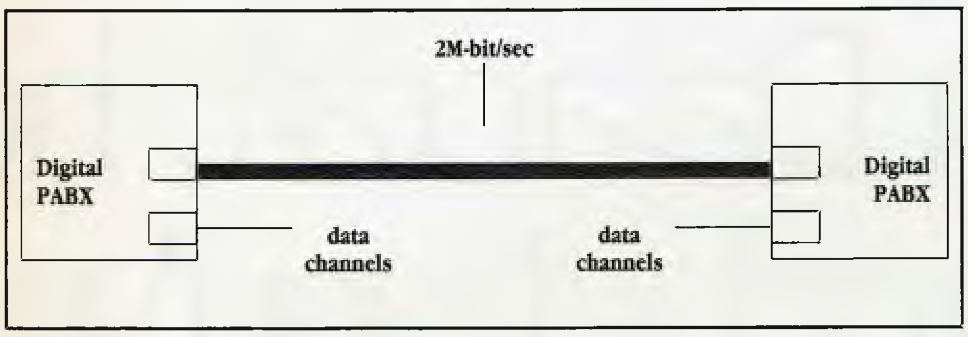

Figure 4

Giants join in study to target hottest European services

RYE BROOK, New York — Hoping to get a jump on their competition, IBM, Siemens AG and Bell Atlantic Corp recently completed a joint study that identifies five telecommunications services with the most growth potential in Europe.

The study, outlined in the planning stage last October at Telecom '87 in Geneva, examined more than 30 "intelligent network" services and their market potential in 16 European countries and Australia. Some of the services require Integrated Services Digital Network features that are now emerging in the US, while others are offerings US users have enjoyed for years.

An intelligent network is defined as one that supports enhanced call handling and customer applications.

Helmut Forner, a senior telecommunications strategist for IBM's European operations, said the three companies decided on the five services through discussions among themselves and limited input from a consultant.

The five services pinpointed by the 600-page survey are: toll-free "green numbers", known in the US as 800 numbers; alternate billing services, which allow credit card calling without operator intervention and the billing of calls to an alternative number; emergency response services, an advanced version of the US '911 emergency service; private virtual networks which offer private-line-type services over switched facilities; and Centrex, which provides for call-forwarding and abbreviated dialling.

Each of the three study participants stands to gain market share should the European telephone companies agree to buy the equipment necessary to provide these services. Bell Atlantic International, a Bell Atlantic subsidiary based in Arlington, Virginia, provides consulting services in Europe. IBM would supply the computer systems needed to offer the the intelligent network applications, and Siemens would sell the switching equipment.

See Australia's first history-making demonstration of ISDN

The Telecom Integrated Services Digital Network. It's the way business will communicate in the future. With voice, text, data, and image integrated on the one access. That's Telecom ISDN.

See the future now.

This multi-vendor demonstration underlines the co-operation between Telecom which is providing the massive investment in ISDN network technology, and suppliers of ISDN compatible equipment: NEC, Ericsson, J-Tec, and Telecom-Fujitsu.

Who should attend?

Communications Managers. Those in management with communications responsibilities. All those with interests in voice networking, data distribution and text transmission.

Make a diary note now.

Telecom ISDN demonstrations at the Dallas Brooks Centre, 300 Albert Street, East Melbourne.

Demonstration times:

Wednesday November 23 and Thursday November 24.
11am to 2pm and 4pm to 6.30pm.
Friday November 25. 11am to 2pm.

Telecom Australia

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DATA COMMUNICATIONS

PRODUCTS, SERVICES, STANDARDS, NETWORK MANAGEMENT

Private networks are now outclassed, says Telecom

By Laurie Zaat

AS the communication backbone supplier to government networks, Telecom has taken a strong stand on the viability of private networks. Luke Bozza, general manager of Telecom's advanced network accounts unit, believes the economics of private networks need close consideration.

"The ongoing costs associated with establishing a private network are considerable," said Bozza. "The issues of network management and future requirements — including the acquisition of more advanced technology as it becomes available — cannot be overlooked."

Bozza acknowledged that the past shortcomings of PTTs made consideration of private data networks appropriate. "PTTs provided good connectivity, but were poor on function," he said, "while private nets were rich on functionality, but poor in connectivity."

However, the introduction of integrated voice and data by PTTs now diminished the need for the private networks. This was particularly relevant in the government area, he claimed.

Telecom believed that the need for governments is to focus on the purpose of communications. Networks are a means to an end, not an end in themselves.

There has been a belief that governments will save money through developing private networks. Telecom believes that to date no government has shown a saving on communication costs through development of multi-department networks.

There are many costs that are not usually included, such as the cost of network management, redundancy, (which once a network gets beyond a fairly simple configuration becomes quite significant), and the cost of obsolescence. For example, the railways are the possessors of the largest open wire communication routes left in the country. They cannot afford to replace these and in a number of instances have already decided to utilise Telecom services in lieu of replacement.

Despite the best intentions, governments tend to be located in scattered accommodation, resulting in a huge number of sites needing to be linked, not only in CBDs but also in country towns. Additionally, the needs of each of the departments tend to be quite distinct.

The kinds of applications that Telecom is exploring with State governments are:

Queue Management — Telecom is providing a facility through the Network for SEQEB (South East Queensland Electricity Board), that routes calls to a common number to the correct SEQEB local office.

With the NSW TAB a recent agreement provides facilities for directing calls between three phone answering centres in Sydney and Newcastle.

Videoconferencing — undertaking a study to investigate a means of reducing the delays in waiting for country circuits of the District Court or Magistrate availability for hearing corrective Services charges.

EDI — Studies being conducted with the State government include the use of EDI to assist the railways region a competitive strength in freight, and for the speeding up of custom's clearances.

Call Location Identification — Telecom is developing a new system whereby calls to emergency services numbers can be immediately identified on a computer screen, with the phone number and location of the caller.

Image Transfer — an exciting new facility which will enable the transmission of high resolution images — such as fingerprints and X-rays via the wide-band switched network.

Text Inquiry Services — can be used for a myriad of uses. For example, the Victorian permit allocation system for overweight or oversize transports used to take four weeks to process. Now, via Keylink (electronic mail), approvals can be turned around in 24 hours.

Commitment to EDI boosted

MELBOURNE — After the lead set by the automotive industry, the Australian retail and hotel industries have boosted their commitment to electronic document interchange (EDI) by establishing two sophisticated pilot EDI networks in Victoria.

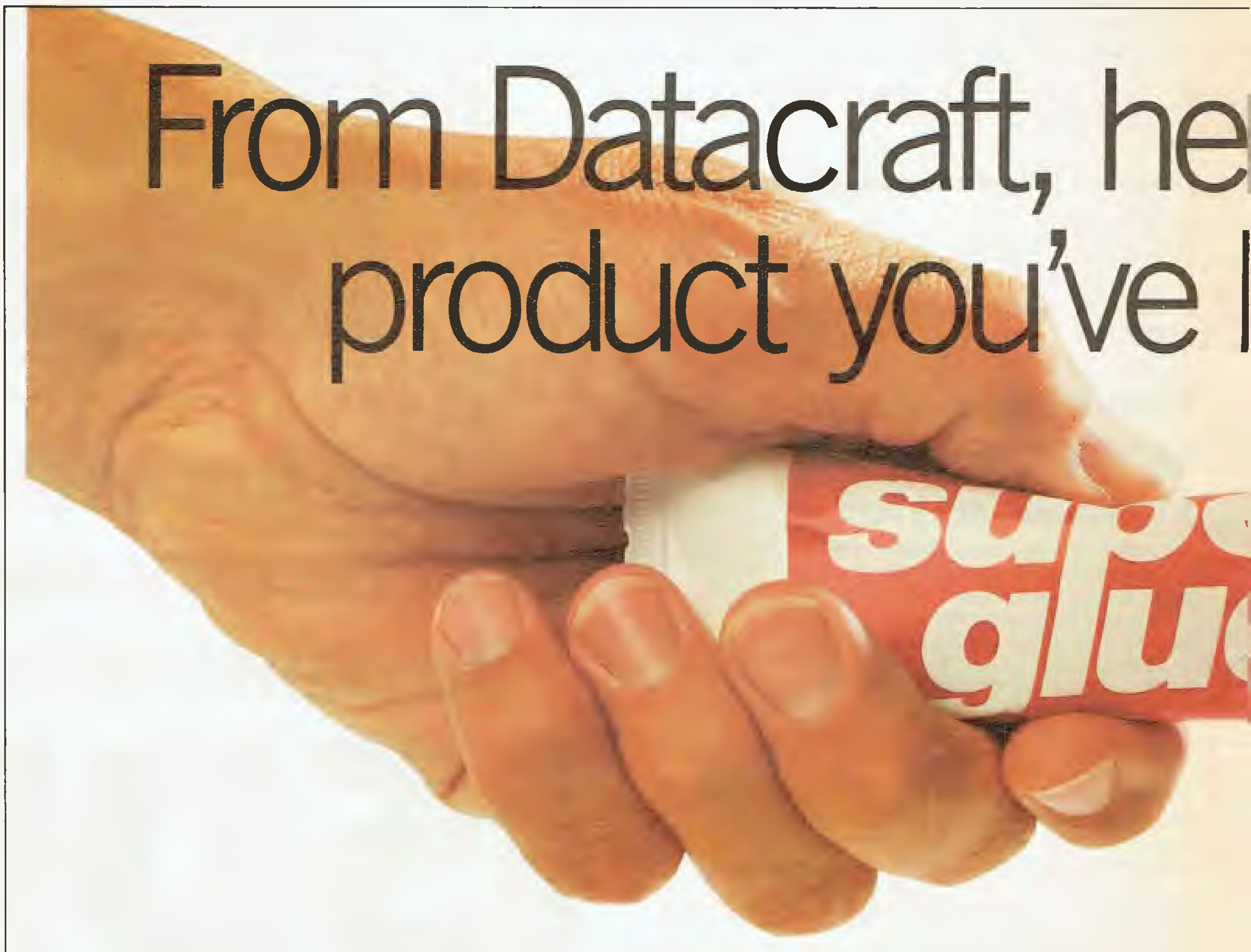
AHA spokesman, Don Larkin, said his organisation was investigating EDI as the hotel industry's information processing platform.

If successful the ambitious project would eventually give hoteliers interactive access to their suppliers, banks, auditors and AHA information, he said.

Larkin said the pilot was still in the planning stages, but would comprise about 30 hotels and a supplier. He said EDI promised a more cost-effective answer than a videotex solution, which was also considered.

"We considered several videotex solutions, including those offered by the ANZ Banking Group's Electronic Network Services (ENS) and Telecom's Viatel," he said. "Those solutions probably would have been very effective if the problem had been based on an individual's communications needs, but we are looking at the entire industry."

It was expected that the project would deliver to AHA members fast information, paperless transactions, automatic re-ordering, improved customer service and elimination of order entry errors.



Datacraft's 2nd generation PC network system from Banyan.

Here's the network you never thought was possible: the mythical 'super glue' that connects so transparently, you could access a file in a New York mainframe as easily as if it were on your PC's hard disk. Or will just as happily link with your Token Ring net in Sydney and your Ethernet in Melbourne.

This is PC networking's second generation. Around the world it raised a buzz of excitement which has grown to a clamour of applause. Already it has won over major users like Merrill Lynch and the World Bank.

Banyan's features.

Banyan is remarkable. It is the only system which combines a flexible local area net with

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☐ full PC/HOST connectivity,
☐ shared applications and peripherals,
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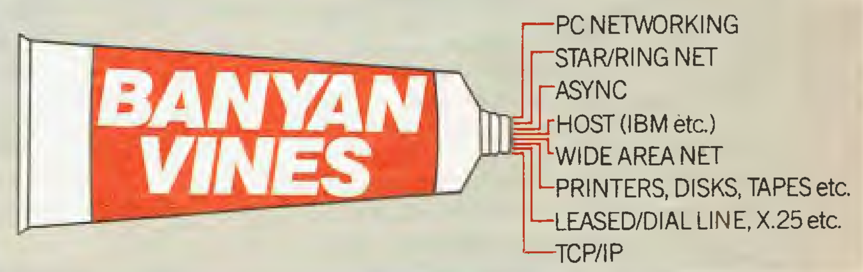
All flowing simply, seamlessly, through one consistent user interface.

☐ Enhanced electronic mail,

Banyan's Vines software allows transparent interconnection.



Travel company wins award for installation

NORTH SYDNEY — Mary Rossi Travel has won the Australian Information Technology Association award for best office automation installation.

The project, under the guidance of Qantas, began last January with computer equipment from Memorex Telex and specialised software from CPS Systems.

While clients benefit from improved service, advantages to the company include a dramatic reduction in manual paperwork to almost zero, and financial accounts which are able to be produced on the first day of the new month.

Mary Rossi Travel operates from a single location in North Sydney. The company was founded in 1969 by Mary Rossi, who is still active in the management along with Claudia Rossi Hudson. The agency books a high proportion of business and first-class air travel for both independent travellers and special-interest tours.

For many years, airlines have had computer-based reservation systems. More recently there has been a move to instal in travel agencies terminals connected to these systems via a single centralised switch (Tias).

However, the travel agent still has to handle the paperwork after the booking has been made. This is likely to include typing an itinerary for the traveller, writing out the ticket, and issuing an invoice. The agency also has all the usual problems of preparing accounts, balancing books, and calculating if it has made a profit.

Working with Qantas, CPS Systems developed Tarmaq (Travel Agents' Reservations, Management and Accounting by Qantas) to assist agents.

When a booking is made for a client, the airline's reservation system is updated as is the client file on the local system.

Specially-developed software fully automated most functions, including maintenance of client files, automated itinerary and ticket production, stock accounting for tickets, full online commercial accounting, electronic mail and diary, management accounting and reporting.

Tarmaq can also be used as the online terminal to Tias for booking air travel. Online reservations are integrated with ticketing and processing, which in turn are integrated with full accounting transactions.

The system's primary building block is Forms (Front Office Resource Management System), a set of tools used to develop local office applications and to define office procedures and communication interfaces. Forms creates an electronic "folder" on each client.

☐ store and forward,
☐ certified mail,
☐ file attachment.
☐ Mainframe-type security and encryption,
☐ hierarchical administration and usage,
☐ approved audit trail,
☐ global access system, *'Street Talk'* – so one name will find the file wherever it is in the world.

You see, from the beginning anyan was created to handle etworks for those who think *big*.

VINES.

The key to the system is VINES, anyan's advanced networking oftware. VINES can accommodate any sized network, incorporating thousands of users. Connecting *all* your computer resources from PCs to mainframes, from Coolaroo to Timbuktoo. In a word, it's the *super glue* everyone's been waiting for.

Australian back-up.

Here, Banyan is exclusively sold and supported by Datacraft and its authorized dealers. As Australia's largest data communications company we can support you to whatever degree you require: from supplying the software and the full range of Banyan file servers, to applications development, installation and maintenance.

And because it's from Datacraft, you'll have a solid blue-chip guarantee that your network will always be supported.

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The leading data communications company is Australian.

Permanent Trustee launches personal management system

THE Permanent Trustee Company Limited has launched an electronic, personal investment and management system called Teletrust, which offers subscribers broking, investment and administrative services.

David Gaunt, general manager of Permanent Trustee's custodial and personal trusts division, said: "TeleTrust is ideal for investors who still want to make their own investment decisions but do not want to be burdened with administrative paperwork associated with active investment.

"Permanent Trustee is able to hold investor's scrip and undertake all administration relating to share investment or fixed interest transactions as well as keeping a record of all the subscriber's investment activities."

TeleTrust is a service offered through Money Watch, the electronic financial information service linked through Telecom's Viatel system which is accessible from almost anywhere in Australia. To gain access to TeleTrust all a subscriber needs is a TV adapter, a personal computer with a modem, or a dedicated videotex terminal.

Through a personal security access code into the TeleTrust system, subscribers can contact Permanent Trustee and instruct it to buy and sell shares, take-up or sell rights, and redeem or renew fixed-interest investments.

Access to Money Watch, Viatel

TeleTrust also details the subscriber's portfolio with values updated daily, lists the subscriber's last 10 transactions, and details money available for investment.

It also "sweeps" surplus cash from the investor's portfolio into Permanent Trustee's Common Trust Fund so the cash is not idle but earning interest, pending investor's instructions.

Subscriber's portfolios are monitored to ensure their attention is drawn to any new issues, maturing debentures, takeover offers and any similar situations which require a decision from the investor.

Gaunt said: "After the subscriber has issued their instructions to us they are carried out within 24 hours and the investor does not have to worry about handling scrip or settling with brokers as we look after those administrative tasks. Also, their personal portfolio is updated once the transaction has been actioned.

"Transactions can be done by any broker nominated by the investor or we are in a position to arrange broking for them, and because of Permanent Trustee's volume dealing with virtually all major brokers we are in a position to arrange very competitive brokerage rates."

TeleTrust subscribers have access to all Money Watch and Viatel information services such as share prices, volumes and indices, foreign exchange rates, market commentaries and brokers recommendations.

Charges for TeleTrust are based on a percentage of total assets and income collected. "On a portfolio of $100,000 we would expect that the subscriber would pay about $500-600 a year in fees for the services provided. Access to TeleTrust's information system is only 10c per electronic page used," Gaunt said.

There is no subscription or joining fee to TeleTrust. Investors must be subscribers to Viatel, which costs $4 a month and is included in their telephone statements. Once the TeleTrust application or subscription is approved, the subscriber has immediate access to the system and to their individual portfolio listing, which has a personal security code.

OSI integral to BHP's $A90 million computerisation

SYDNEY — BHP is planning computer network implementations never attempted in Australia to form the operational backbone of an $A800 million modernisation of its Port Kembla steelworks.

The $A90 million computerisation upgrade includes extensive computer integrated manufacturing and the installation of highly automated facilities. Communications will be a key feature in the program.

Network Solutions Australia has been appointed principal network consultant and contractor for the project. The principles of the Open Systems Interconnect (OSI) standards will be integrated to the project.

BHP has instigated a solid migration policy towards OSI, after installing proprietary networks in 1984. The Port Kembla plant has ongoing network development under OSI Manufacturing Automation Protocol (Map) and Technical and Office Protocol (Top) specifications.

Draft plans of the Port Kembla network indicate the plant will get the largest integrated computer network in Australian manufacturing, supporting data transmitted from small machine control devices on factory floors, DEC Vax intermediary systems, and three IBM 3081 Group 3 mainframes.

BHP's supervising electrical engineer (electrotechnology), Tony Strasser, said the network would have to support data from DEC, IBM, General Electric, Toshiba, Gould-Modicon, and Allen-Bradley machines.

A broadband cable system selected for the network, currently increasing its length despite running for 40 kilometres through Port Kembla, was installed.

Broadband cable was selected because it employs coaxial cable and can carry data, voice and video over long distances at up to 30 million bits per second.

The technology offered an effective and flexible alternative to twisted-pair cabling which was prone to noise and surges, and was unable to deliver the required rates of data transmission.

"We are always expanding the network, but growing our original twisted-pair circuits involved continually laying new 50-pair cables at $A20 per installed metre.

"Broadband offered the flexibility we needed without endless new cable runs, giving us the ability to bring on an almost unlimited number of new devices within a network environment with a projectable life of about 25 years.

To ensure fault tolerance and easy maintenance, the Port Kembla network consists of "dual active trunks" of broadband, each about 15 kilometres long.

A spokesman said this was a duplication of a single main finger network, which allows one trunk to fail or be closed down for maintenance or extension while retaining full operation for the entire plant on the parallel trunk.

Strasser said in the event of a complete failure of the broadband network, the local sub-networks such as Ethernet and other networks feeding into the broadband were configured to continue operation as standalone workgroups.

He said BHP had a complete foundation for a full implementation of OSI on a very large scale, adding that if OSI had been available earlier BHP may have avoided spending $A2 million on gateways and custom protocol converters and development during the modernisation process.

Videotex motor dealer network is claimed to be a world first

SYDNEY — Custom Credit Corp Ltd, a member of the National Australia Bank Group and one of Australia's major financial institutions, has awarded a contract to Elders Videotex Services (EVS) to provide an automated motor vehicle dealer network information service throughout Australia.

The service, which will allow motor vehicle dealers to communicate directly with Custom Credit's Dealer Financial Services business unit via the existing Elderlink videotex service, is said to be a world first.

Dealers will be able to access considerable amounts of information and process loan applications via personal computers fitted with modems and special videotex communications software. Both Custom Credit and EVS say the time needed to process a motor vehicle loan application will be cut dramatically through the use of the service as a communications medium between a large organisation and many smaller organisations eager to deal with it.

More than 500 motor vehicle dealers could be online within the next 12 months.

"Because of our commitment to our dealer network, we simply wanted to provide better service, and the EVS service was the most logical, cost-effective solution to our communications needs," Brien said.

"While we considered a number of PC and videotex-based solutions, EVS was able to demonstrate that it could provide more than a static information service.

"The EVS videotex service was shown to be extremely cost effective — compared with conventional computer-based systems.

"The Custom Credit application is sophisticated, calling for dealers to be able to utilise information they have access to in a number of ways. We had every confidence, after analysing their solution to our needs, that EVS' videotex service would work for us.

"We also wanted a system that would be easy to use, providing real convenience to our dealers."

EVS said the agreement is the first of a number of large corporate and government management information projects being developed.

"The agreement with Custom Credit signals a marked development in videotex technology," EVS general manager, Jeremy Cape, said. "This development is a natural extension of Elderlink, our innovative rural and financial management service."

Motor vehicle dealers will be brought online progressively throughout Australia from early 1989, Custom Credit said.

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So, you can do without the cost of rewiring your entire office, or the disruption of workmen pulling up carpets and re-arranging furniture.

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It's so advanced, it guarantees the future by allowing you to take immediate advantage of ISDN.

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ANALYSIS

Technology the lever in transforming management structures

By Barton Crockett

FRAMINGHAM, Mass — Communications technology is emerging as the fundamental piece in a new strategy now taking shape in US businesses — using management structures to gain a competitive advantage. As businesses are challenged by such forces as global competition and mergers and acquisitions, time-tested management structures are putting a strain on corporate bottom lines.

In response, companies are breaking down divisional walls and flattening top-heavy management pyramids to create new corporate structures that help them compete more effectively.

The technology that is making much of this possible is networking.

"It's clear that more and more companies now view the way they organise themselves as a way to gain a competitive advantage," said Harvard Business School Professor Quinn Mills. "In fact, companies now consider information about new management structures so proprietary, often they aren't letting us do case studies. A few years ago, this never happened.

"And of course, the fundamental element underlying much of these new organisations is communications technology."

Communications technology helps companies overcome three kinds of basic organisational difficulties: Good networks make geographically dispersed companies more manageable; they help top-heavy companies trim down middle management; and they also help companies break down barriers between different divisions.

One example of a company that has leveraged its investment in network technology to manage a widely dispersed set of offices is San Diego-based Science Application International Corp (Saic).

Saic is a privately-held government and defence contractor whose sales last year totalled nearly $US800 million. The company has about 9000 employees in 180 offices across the US.

In 1986, Saic built its first comprehensive, corporate-wide network, dubbed SaicNet, in order to manage these dispersed offices more closely.

Communications technology helps companies break down divisional barriers

SaicNet carries voice, data and video traffic between the company's largest offices and 10 data centres using dedicated lines at speeds ranging from 9.6k-bit/sec to 56k-bit/sec.

According to Jeff Smith, Saic's vice-president of telecommunications services, the network eased the task of managing such a decentralised company. First, a 56k-bit/sec videoconferencing system linking 10 offices helped trim travel expenses, which Smith estimated saves the company $US50,000 each month.

Second, according to Smith, the system helped Saic generate more business. In particular, a network service called Electronic Proposal Integration (EPI) cut the cost of preparing bids for government work, which in turn helped generate more sales.

"As a government contractor, we face strict limitations on how much we can spend on bids and proposals," Smith explained. "Sometimes, this actually limits the amount of work we can bid on."

Preparing bids for government work involves gathering input from dozens of experts in the company. Typically, these employees work at home or in their office and type up portions of proposals on personal computers. These computers can be of nearly any make, from IBM to Wang or Apple.

In the past, paper copies of this information would have been mailed into a proposal integration centre, then manually typed into a computer — a slow and cumbersome process.

But using EPI, users can send a copy of their information electronically over the network to a DEC Vax minicomputer.

From there, the Vax, equipped with Crossword software, translates text written in any one of a number of formats into a common form. This computer then forwards the text to computers in a proposal office, where it is electronically combined with other text.

Complementing EPI, SaicNet also gives employees access to centralised databases that contain information such as records of past work that are repeatedly referenced in proposals. "The net effect of this whole effort was to cut down the cost of preparing bids," Smith said. "This let us bid on hundreds of millions of dollars worth of extra contracts.

"Even if you figure we only get a few of those contracts — actually we get around 30 per cent — you've got to figure this system has generated us millions of dollars in business."

One company that has used communications technology to help reduce middle management jobs is Hercules, based in Wilmington, Delaware.

Hercules is a diversified chemical manufacturer with sales of more than $US2.5 billion, some 23,000 employees and 80 manufacturing plants worldwide. The company sells more than 1000 products. Only about 15 per cent of its employees work in the Wilmington area.

In 1977, Alexander Giacco took over as Hercules' president, chairman and chief executive officer. Convinced that Hercules was overstaffed, Giacco decided to eliminate middle- and upper-management jobs. In little more than five years, he cut the number of middle managers at the company from 13,000 to 7000 and pared the number of top managers from 22 to 11.

To facilitate this change, Giacco funded a massive expansion of the company's communications infrastructure. During this period, Hercules built a satellite network linking 11 offices in the US. The net carried voice, data and video traffic. The company also leased undersea cable lines linking domestic offices with those in Europe. Recently this network was replaced by a terrestrial system in the US and satellite links to Europe.

Ross Watson, vice-president of information resources at the company, explained the rationale behind the chairman's reorganisation plans.

"Basically, he concluded that we had overstaffed ourselves with middle managers whose only job was to sort through, organise and move information," Watson said. "Giacco decided that to compete in an increasingly tight market, we needed to cut these people out of the bureaucracy. Building the new communications network enabled us to do that."

In all, Watson said, the company reduced its management ranks from 12 layers in 1977 to seven this year. Managers use the network to hold videoconferences and exchange marketing and purchasing data. This increased management productivity.

"Without the net, we would have never been able to pull this thing off," he said.

An example of a company trying to use communications technology to break down organisational barriers is Detroit-based Chrysler Corp.

The automaker is hoping a new computer network which cut over last month will enhance communications between the company's design engineers and manufacturing engineers.

Historically, design engineers, who make blueprints for new products, and manufacturing engineers, who design the machinery that assembles the products, have not communicated well — either in Chrysler or in other manufacturing companies in this country.

"The old cliche is that a design engineer would throw his plans over the brick wall to manufacturing people," commented Tom Perring, supervisor of Computer Automated Design development at Chrysler.

Perring added that this lack of communication has repeatedly led to mistakes and problems at Chrysler that could have been corrected earlier, and at much less expense, if the two groups had worked together more closely.

The new 80M-bit/sec Proteon network has been installed in Chrysler's Detroit engineering office to support 180 engineering workstations from Silicon Graphics. This network was connected to a loosely coupled network of 10 Control Data Corp mainframes at the site, also used by the company's design engineers.

Both of these networks will be linked to computers in the company's corporate offices that have such information as prices for manufacturing materials. They will also be connected to engineering workstations used by manufacturing engineers at plants within about 10 miles of the Detroit engineering centre.

● *Barton Crockett is a senior writer for* Network World, *a US sister publication.*

Lack of communication leads to mistakes and problems

REGION

UPDATE ON THE ASIAN/PACIFIC COUNTRIES

CHINA

Visa plans to build credit card authorisation network in China

BEIJING — Visa International plans to build a nationwide credit card authorisation network based at the Bank of China, which recently began issuing Visa cards.

The network is expected to cut down the time needed to authorise credit cards and better identify stolen or ineligible cards, making the acceptance of plastic more palatable for merchants in China.

Merchants will be encourage to accept Visa cards as the number of tourists and Chinese citizens with credit cards increases, said Dan Brigham, a spokesman for Visa International in San Francisco.

Carl Pascarella, chief general manager of Visa's Asia-Pacific region, said he expects the number of merchants accepting Visa cards in China to double to more than 3000 in the next two years.

Electronic authorisation of credit card transactions — in which the merchant receives an authorisation code at a point-of-sale terminal — will replace the more time-consuming method of requesting credit verification by telephone.

The network will support electronic clearance and settlement for both Visa cards and certain other charge cards, Brigham said.

The point-of-sale terminals in the network, provided by VeriFone of California, will be connected to a Stratus XA2000 continuous processing system at the Bank of China via a local packet-switching network.

The Stratus fault-tolerant minicomputer, which runs ON/2 retail transaction-delivery software from Shared Financial Systems of Dallas, interacts with the Bank of China's processing computers to determine who issued the card.

Cards issued by the bank can be handled onsite. Others must be turned over to VisaNet, Visa's worldwide transaction-processing network. That net has access to card account information from card-issuing institutions throughout the world.

If further information is necesary to authorise the card, the card number is transmitted via satellite to a regional Visa International centre in Hong Kong. The signal is then sent to a VisaNet Authorisation Centre in San Francisco. This extensive process would take less than a minute, Brigham said.

Ray Chan, Visa International's general manager of North Asia and the Asia-Pacific region, said the improved transaction speed would allow every transaction to be carefully authorised, instead of only those for transactions of $US500 or more.

"This technology provides electronic protection for both the card issuer and the merchant," Chan said.

The system is due to become operational by the end of the year.

"Potentially, China is an enormous market," said Brigham, who noted that the country has 474 cities and areas open to tourists.

China hosted about 27 million visitors last year, an 18 per cent increase over 1986, according to the Chinese National Tourist Office. Those tourists spent about $US2 billion while in China.

The Bank of China issued its first Visa cards to officials of the Chinese Olympic Committee and athletes in Seoul.

SINGAPORE

Singapore switches on to AT&T

TELECOM Singapore has become the first organisation worldwide to use the AT&T 5ESS digital switch as an international gateway switching system.

It has installed one 5ESS switch at its Pickering Centre complex, to handle all incoming and outgoing international calls for the whole of Singapore.

This is part of a nationwide move from analogue to digital switching.

The switching system for the centre, which consists of two 5ESS switches, will cost a total of about $A50 million.

The first switch was inaugurated late last month.

The 5ESS switch is modular in design. Modules can be added for increased capacity or to offer special features.

For example, the switch can be equipped with an audio response unit which will instruct customers to select a native language for instant, computer-generated information about their international calls, such as the duration and cost of the call.

The announcements can also tell a customer why calls cannot be completed — because the wrong country or area code was dialled, or circuits in the country being called are busy, for example.

This has already been done for the first Singapore switch.

This switch features the first International Operator Services Position, which makes use of integrated services digital network (ISDN) technology to give staff an unprecendented amount of online information to handle customer queries.

For example, an operator can select specific circuits for calls and provide immediate international network status information.

The switch also features:

■ The first application of AT&T's software based International Tranmission Maintenance Centre for cost-effective, centralised testing and maintenance of its international circuits.

"As far as AT&T is concerned, this is the first time that we installed this system anywhere in the world for use in an international circuit," an AT&T Singapore spokeswoman said.

The system is used to control the duplicate sets of Digital Access and Cross Connect Systems — the electronic termination points for international satellite, submarine cable, or land based microwave radio transmissions.

■ AT&T's Lineage 2000 Microprocessor control system, which monitors the complete power plant needed by the switching and transmission equipment.

■ A custom-built caesium beam primary reference clock to ensure that all digital components in the Singapore network communicate at exactly the same speed.

The Pickering Centre switch is the first of two 5ESS gateway switches purchased for Singapore.

NEW ZEALAND

NZ banks make quick smart withdrawal

ALL FOUR of New Zealand's trading banks have now backed out of the Quick Smart joint EFT/POS network, based on the common Databank bureau.

Withdrawal of the National Bank of NZ is the last step in a gradual landslide which began in late September with the backout of the biggest participant, the Bank of New Zealand (*Communications World, October*).

A week later, Westpac NZ gave notice of its intention to withdraw from the common network, though it still has not given a firm date. ANZ Bank followed quickly. It withdrew its terminals, but unlike the BNZ, left its cards in the system with a strong message that it was open to offers from another actual or potential operator of an EFT/POS network.

The withdrawal of National has left the trading bank network virtually non-existent. The alternative EFT/POS setup, run by the Auckland Savings Bank and the Trust Bank, is still running. Trust Bank's Ian Murgatroyd confirms the consortium's readiness to entertain the cards of former trading bank operators, given a suitable arrangement.

The two networks were set to link up last month, after years of separate operation which required merchants subscribing to both to carry two terminals on the counter. The link plan was cancelled after the BNZ backout.

All four banks have given high costs as the basic reason for pulling out of the network; costs which obviously became progressively higher as fewer banks were left in.

But Murgatroyd emphasised that the Trust Bank consortium's network was still viable. The answer, he suggested, may lie in slow and steady growth and in staying with the high-volume merchants like petrol stations, encouraging a large user population on a relatively small network.

Meanwhile, Telecom NZ is pressing ahead with its plans to offer an improved switched network suitable for EFT/POS traffic. This will be based on network access controllers using Honeywell hardware, sited at telephone exchanges.

The new equipment will be melded with a previous one using Hypercom equipment. This adhered to the Australian standard 2805.1 protocol, and was severely restricted in the types of terminals it could support, said Telecom spokesman Charles Jarvie. "Telecom preferred a more open standard," he said.

So far, nodes are installed in Auckland, Wellington and Christchurch. There is no paying traffic on the network yet, but three types of terminals have been successfully tested, Jarvie said.

Enquiries about use of the Honeywell network are coming from merchants rather than banks, he said.

Payment for EFT/POS transactions was a major controversial point of the Quick Smart network. Merchants perceived the biggest benefits to the banks, but the banks intended to make merchants pay when the network moved into full use. Despite four years' life, most banks still considered EFT/POS to be in experimental mode.

Asian clients get access to expert databases

SINGAPORE — Singapore software and systems house Business Decisions Systems (BDS) has invested about $A610,000 in an electronic support network for customers in Singapore, Malaysia and Thailand.

The network, claimed to be the first of its kind in the region, will give BDS clients online access to expert databases that BDS plans to set up, reducing the time needed to analyse and correct system problems.

"The investment includes the purchase of IBM AS/400 minicomputers, which will form the hub of the network," said BDS director Roger Lim.

He said the new system would supply the infrastructure to implement a three-phase customer support program. The first phase, work on which has already begun, is the setting up of the expert database, which will contain the experience garnered from implementation of more than 3000 BDS computer projects.

These include systems for manufacturing, distribution, trading, and financial/multicurrency accounting. BDS customers will be able to dial into the AS/400 system to access the database.

"The database will contain 300 to 500 man years of experience," Lim said. "This means our customers do not have to maintain a sizable and expensive team of in-house systems professionals."

Phase two of the program involves linking up the AS/400 to customers' systems to enable BDS to provide remote engineering support to its clients.

"The link will allow our field engineers to analyse a customer's problem without having to be at the site physically, which will substantially reduce the time it takes to correct a problem," Lim said. Work on this is due to commence before next year.

In the final phase BDS will be linked to expert databases in the US, Europe and Australia. "These will provide the collective experience of 40 organisations around the world providing support to a base of more than 3000 customers," Lim said.

In addition to setting up the network, BDS will begin developing software on the AS/400, which it will offer as part of its range of total business solutions. BDS previously developed its software on the IBM System/36 and /38.

INDUSTRY

VENDOR STRATEGIES, MARKET TRENDS, BUSINESS NEWS

'Networking is not a product, but an idea'

By Noel Bennett

Sydney — Keeping the finger on the pulse, making products work and setting trends are necessary ingredients in overcoming challenges from quickly changing products, technology and standards, according to the managing director of Network Solutions, Richard Freemantle.

And the points on the board would indicate that the company, a member of the Lionel Singer Group, is winning.

Getting off the ground in 1984 with one person, the company, now with 42 staff, expects to achieve a $A16 million turnover this year, and is planning to expand into the Pacific rim. Contracts secured would indicate the confidence which large organisations, such as BHP, Bond University and Australian Nuclear Science and Technology Organisation, place in the professionalism of Network Solutions.

For Network Solutions, the Bond University contract is of major importance for not only is it developing a 100-byte backbone system and with other features making it "the most advanced network of its kind in the world", and besides designing and installing the network, the company has been contracted to "facilities manage" the network.

In keeping with the company's name, Freemantle said that when approaching a potential client, products — the tools — were kept in the background if possible.

"Networking is not a product, but an idea" and after determining the client's problems, the company chose those products which would effectively mesh in with the solution it had proposed.

However, there is another pragmatic reason why Network Solutions is comparatively less interested in irrevocably tying itself up with particular products: the recent falling over or takeovers of so many US companies could have meant it might have suffered a similar fate.

Discussion of networks now revolves around OSI, which Freemantle believes will become a reality.

Customers such as Bond University were increasingly refusing to be inextricably tied to one vendor, apart from special circumstances, wanting to choose between those competing products which best suited their requirements.

That is, they wanted to assert control, rather than control residing in vendors as to their computer/communications destinies.

Freemantle cited other happenings: the TCP/IP lobby "was making a lot of ground" — in itself a step towards OSI — and the moves by governments which will eventuate in vendors having to supply equipment to them which meets OSI standards in order to secure contracts.

However, moving through the seven layers of the OSI model would be a slow process and Freemantle believed that one obstacle to its full realisation was the absence of full management control of an OSI network, at this stage, due basically to disagreements among vendors.

Accordingly, if Network Solutions wanted to stay in business addressing the requirements of large corporations, it had continually to introduce emerging, more complex products and make them work in the interest of the client.

Richard Freemantle . . . TCP/IP lobby "making ground"

Warships find a use for Videotex

By Noel Bennett

SYDNEY — Videotex, with Australia via Telecom being one of the most successful countries in terms of market penetration, is now finding military applications.

HMS *Edinburgh*, one of the numerous warships which decorated Sydney Harbor during Bicentennial Naval Week celebrations, is using a trial installation.

Based on a GPT Data Systems 4105 central procesor and servicing up to 16 terminals, the system is replacing a manually operated Stateboard, similar to the boards in stock exchanges, and located in the below-deck operations room.

According to chief of operations/radar, Bill Faulks RN, also systems manager for the videotex operation, the virtues of the system lie in its simplicity of operation — reducing manpower requirements — clarity of presentation and speed of response.

Other advantages, compared with writing on the Stateboard, included the large number of screens of information which could be quickly updated by the one operator, then viewed via terminals located throughout the ship with security features installed to protect classified data.

GPT Data Systems supplied the videotex systems for Telecom's Viatel service and now has similar systems operating or about to operate in nine other countries including Hungary, Britain (Prestel), Singapore (Teleview) and Italy.

A spokesman for the company said he believed the next major development would be to link up the various videotex systems into an interconnected global network.

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INDUSTRY

Company finds the world is its niche

By Noel Bennett

SYDNEY — Niche marketing is a requirement for success even in a global marketplace which carries overtones of boundless opportunities.

This has been the experience of GE Information Services Australia (Geisco) over the past few years, a company now setting its sights on the banking and financial services market worldwide.

Robert Dowd, manager, systems development and consulting, Asia and Pacific area, and Phil Heavener, manager, marketing and sales support, describe timesharing as the main type of service Geisco provided in the late 1960s and early 1970s.

This was based on a large number of clients remotely sharing a large processor, located in the US. Essentially, it was a service to companies which could not afford their own "number crunchers".

However, with the advent of more powerful and cheap minicomputers and even today, the tremendous processing capabilities locked away in a personal computer, companies switched out of the Geisco service.

Although the company provided other services, it accordingly determined that a change of direction was necessary. The banking and financial services market and exposure management were chosen as the answer.

This appears to be paying off, with the erosion of business which occurred up until the last two years having halted. Indeed, the past two years' results have been increasingly successful, according to the executives, with the newer services now accounting for some 65 per cent of the company's $A14 million revenues.

With its world-wide networking facilities, the executives said Geisco was almost alone in Australia in this market niche, developing and marketing specialised application packages such as sophisticated electronic funds transfer facilities and a large number of other services which all share the characteristic of immediacy.

This has been in tune with market developments — including worldwide deregulation, the forming of alliances between banks and other finance groups, the volatility of stockmarkets, and the necessity to recycle the huge Japanese trade surplus.

And while institutions have developed their own application packages, lessening their reliance on Geisco, new services are continually being developed to more than take up the slack.

One such service is Global Limits, an exposure management facility developed in conjunction with a bank. It enables a client not only to set limits in trading relationships with another bank or country, but provides management with instant access to particular exposures to any client worldwide and at any time of the day.

With this knowledge of exposures, and being better able to effect credit management, institutions are in a far better position to move funds around the world in a 24-hour cycle to take advantage of any opportunities, no matter where they exist.

Dowd and Heavener said they did not believe any individual institution could set up its own comparable facility, due to the expense of establishing such an extensive worldwide network.

The parent Geisco was the leading supplier of networks for electronic document interchange (EDI) applications in the US, they said, with more than 3000 trading partners committed to this electronic relationship between manufacturer/retailer and suppliers of components and products.

The implementation of EDI in Australia is waiting on commitment and cooperation of suppliers.

One difficulty to overcome in Australia is that many suppliers are small and unsophisticated in computer/communications technologies.

However, even if telecommunications regulations were to allow companies such as Geisco to offer pure switching services within Australia, the company would not enter into this field.
prefers to concentrate on its present value-added services.

On the other hand, many Australia companies are trading and manufacturing internationally, and Dowd and Heavener indicated that Geisco could be interested in providing international EDI or "trade facilitation" services.

The executives said that other new services emerging, and in which they could fully participate, could result in business growing exponentially.

Sale of 900 terminals

SYDNEY — Fortronic Technology Pty Ltd, a wholly-owned Amatil subsidiary, has won a contract with Westpac Banking Corporation to supply 900 Fortronic F86 EFT/POS terminals.

The terminals have been designed to meet the needs of all retailers and in particular, installation at BP service stations will offer the ability to perform specific oil industry functions.

Voicecall predicts a good year ahead

COMMUNICATIONS services group Voicecall Ltd has announced a loss of $A939,000 for the year to June 30.

This is a 23 per cent improvement on the previous year, and was recorded on revenues of $A12 million, up 12.4 per cent from the previous $A10.5 million.

Directors said the year was atypical and predicted substantial profits this financial year.

Voicecall recently sold its paging operation, Voicecall Communications Pty Ltd, to Link Communications Pty Ltd for $A30 million.

This has resulted in Voicecall being able to discharge most of its debt.

Voicecall chief executive Dr Richard Freyer said the net tangible asset backing per 50¢ share had increased to 75¢ a share, of which 55¢ was cash.

"As a result of the sale of Voicecall Communications Pty Ltd, Voicecall has a very strong cash position at the present time and is actively looking to enhance its key activities as well as seeking new areas for investment and diversification," Freyer said.

Voicecall would continue to enhance and develop its other wholly-owned subsidiary companies, Stockwatch Pty Ltd and Messagetech Pty Ltd.

"Stockwatch will continue to develop the position of financial information services in the Australian market as the exclusive distributor of Knight Ridder Financial Services," Freyer said.

"Messagetech has developed its business with the provision of technology to the paging industry and in the mobile communications services area.

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stepping up

NETWORK Automation Pty Ltd, developer of packet switch network systems, has appointed **Gregg Cutrell** product manager. He will have international responsibility for the planning and development of the company's product range. Before joining Network Automation he was manager of systems programming at Telenet (Virginia), which specialises in public data networking and is the world's largest supplier of X.25 products and services.

John Gould has also been appointed account executive responsible for the ACT and NSW. He will be based in Canberra to address the rapidly growing public sector market for packet switch network systems. He has more than 20 years experience in the computer industry having filled engineering, systems, R&D and sales positions in the UK, US and Australia. He has held senior positions with Digital Equipment Corp, Storage Technology and Fujitsu since settling in Australia in 1976.

TELECOM's Viatel and iLink staff will now work under the banner of Electronic Information Services, which will be headed by former national Viatel manager, **David King**, who becomes manager, Electronic Information Services. Telecom's EIS team will have a new national marketing and sales manager, **Richard Zados**, who has been State manager for Moore Data Management Services in Victoria for the past five years. Before that, he spent eight years with Dun & Bradstreet, working in several states. The EIS team will also have a new industry services manager in **Keith Budge,** who has just returned from Perth where he worked in strategic planning with the West Australian Government in the Department of Services and the Department of Computing and Information Technology. Before working for the WA Government, Budge worked in Viatel's service provider marketing area.

Gregg Cutrell (left), John Gould and Richard Zados

COM Tech Communications, distributor of Micom Interlan networking products and sub-distributor of Novell networking software, has appointed **Darron Lonstein** as Novell product manager. He will be responsible for sales and support of Novell software products through Com Tech's dealers. Before joining Com Tech, Lonstein was managing Unix-based computer systems for a financial services organisation. Com Tech Communications, based in Sydney, supplies software and hardware products for the connection and networking of multi-vendor computer equipment. The company, which is two years old, provides full technical and installation consulting and support to both dealers and users.

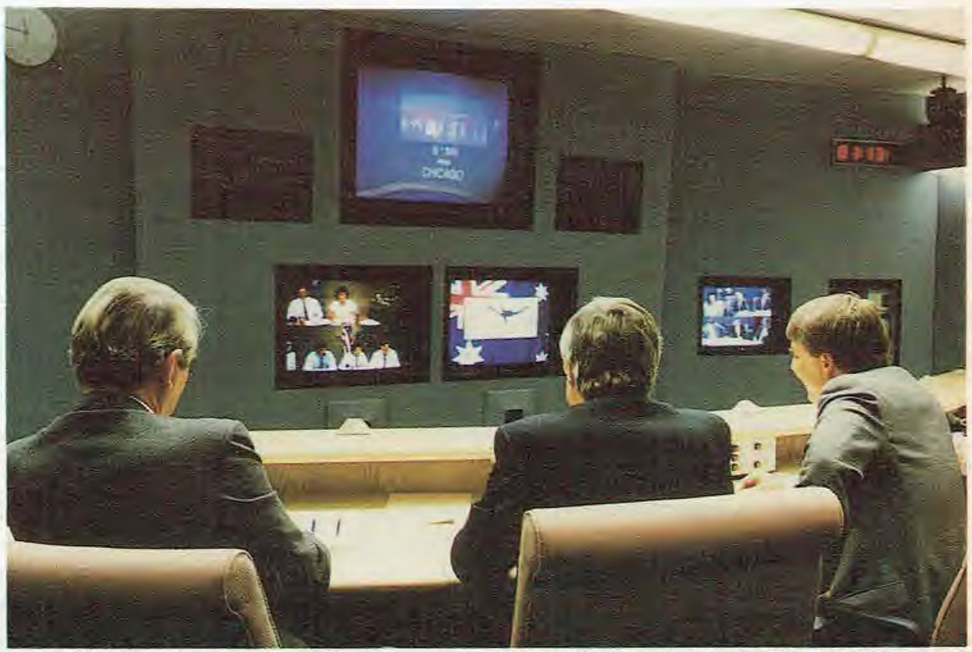
COMPUTER Sciences of Australia has appointed **Rob Hack** manager, northern region of the business systems division. Hack is responsible for providing professional services, a range of software products, and computer processing and Infonet network services in New South Wales and Queensland.

He has worked in the computer industry for the past 18 years. Before joining CSA he was national sales manager, minicomputer systems for Olivetti. Hack was also general manager of Datronics, after working for ICL for 13 years.

CORE REPORT

VIDEO CONFERENCING

Does this mean goodbye to airline coffee and Mascot taxi rides?



Meeting interstate colleagues . . . without the wasted travelling time

By LAURIE ZAAT

AUSTRALIAN business has been all too acutely aware of the tyranny of distance in a country where the business hubs are separated by hundreds, even thousands, of kilometres. Transacting business nationally has meant a great deal of time being consumed in bringing parties together, and even greater amounts of money for transportation, accommodation and the sheer logistics involved. All of which adds up to significant losses in productivity. This notwithstanding, a certain culture has evolved that feeds off this very aspect of business: visit a major airport any morning during the working week and you will be swallowed up by this transient business society, milling as though transfixed, waiting to be syphoned off to yet another interstate engagement.

The real question that arises is whether all this travel is necessary. While the importance of face-to-face communications is well recognised, physically occupying the space next to your associate may not always be possible, or even desirable, due to commitments, time constraints, distance or what have you. Where expediency dictates that the get-together must nonetheless occur, videoconferencing may prove an economical, and yet effective, alternative. While a truly national facility may not yet exist, developments in the technology and availability of facilities are attracting a steady growth in its popularity.

Until recently, the equipment and transmission costs and other demands of the available (TV broadcasting-based) technology precluded videoconferencing's general acceptance.

> ‘ *The only noticeable difference . . . is that you cannot shake hands* ’

Awareness of this problem led Telecom Australia and others to develop services based on video transmission equipment capable of providing TV-like transmissions via Telecom's digital network.

Now, Telecom's publicly-available videoconferencing facility, Confravision, enables two or more groups of (ideally) six to 10 people to talk, listen and see each other, and to show each other documents, photographs, diagrams and other forms of graphics at a typical cost of $A530 for a 60-minute Sydney-Melbourne link-up.

According to Luke Bozza, general manager of Telecom's Advanced Networks Accounts Unit, the potential of videoconferencing is enormous.

"At present Telecom provides a service between Sydney and Melbourne where participants only need to travel to a studio in their city centre. The time and money which can be saved by holding a videoconference, rather than travelling interstate on a regular basis, can be substantial," he said.

"The growth will be in the introduction of corporate networks with companies using 'roll about' units in normal meeting rooms as switched digital transmission and 'codecs' become affordable."

Telecom's equipment enables TV-like signals to be transmitted via the digital network. It does this by "compressing" the information that would otherwise need to be transmitted, by a factor approaching 70:1 using a device called a "video codec". In Telecom's Confravision system, once an initial picture has been established, only *changes* to that picture, such as participants moving or speaking, are transmitted. The resultant picture is virtually indistinguishable from normal television when limited motion is involved, as at meetings.

While 2M-bits rates have been used for several years, 385k-bits is now near equal. A 64k-bit codec still has limited videoconference application.

Links may be interstate, or via OTC, overseas. Intrastate links are feasible but have not yet been established, however, with falling costs in transmission and equipment, this is about to change.

According to Bozza, videoconferencing is not a substitute for *all* face-to-face meetings — physical presence is sometimes essential — but experience is increasingly showing that the technology can be used effectively in well over half of the meetings that would otherwise involve travel.

Productivity increased

Interestingly, while the reduction in travelling, with its associated mental and physical stress, is invaluable, experienced users say that videoconferencing's major benefit is that it increases executive productivity through availability.

Videoconferencing, states Telecom, enables busy executives to participate in meetings with minimal interference to normal routine. It eases problems associated with decentralising. It provides the flexibility to arrange face-to-face meetings at short notice — invaluable for crisis management. It also enables input to be obtained from more participants than might otherwise be feasible. And, because the involved parties can increasingly remain in their own premises, documents unexpectedly required can be readily accessed, and shown to the other party if required.

There is a further, unexpected bonus. Studies have shown that people tend to be more attentive at videoconferences than at traditional meetings, and that videoconferenced meetings tend to be more productive than traditional meetings — perhaps because the agenda tend to be better structured.

Telecom's Confravision facility links the organisation's own fully-equipped studios in Sydney and Melbourne. Staff members handle bookings, explain procedures and demonstrate facilities.

Pilot facilities have also been established in Canberra and Perth. Other State capitals may be included in the near future, based on customer demand.

Privacy assured

A major advantage for many organisations is that Confravision can provide complete privacy. No technical staff are required: all proceedings can readily be handled by the conference leaders, (the audio link can be discretely muted if participants require to discuss a matter privately!)

The experience is not confronting, the studios have no harsh lights or even external microphones. It is like watching television in comfortable surroundings, and participants feel relaxed within minutes.

Videoconferencing services can also be arranged by Telecom between its customers' premises (or between customers' premises and a Telecom-owned studio) with Telecom managing the complete installation. The advent of lower-priced codecs and switched digital transmission will facilitate this trend.

Extensively used

Despite minimal promotion, Telecom's Confravision service has an extensive list of public and private sector users.

Government users include (or have included): the Committee of Economic Development in Australia, the Australian Taxation Office, the Australian Conciliation and Arbitration Commission, the Ministry of Acts, Railways of Australia and the State Library of Victoria.

Users also cover virtually every aspect of the private sector: in agriculture, banking, building and construction, business services, community services, education, finance, health, insurance, investment, judiciary, manufacturing, media, music industry, retail and wholesale, sport. There are well over 100 regular major users.

Trials of "inhouse" videoconferencing have been successfully concluded by the Federal Attorney-General's Department, the department of Prime Minister and Cabinet, and the Department of Defence. The latter department is about to implement a Telecom-supplied system which will have secure videoconferencing links established between strategically important locations. Telecom itself has "corporate" facilities in its Business Sales Centres.

The Department of Local Government and Administrative Services is assessing the viability of establishing videoconferencing centres in all Australian capital cities — to be used by all Federal government departments. Telecom has also provided advice on inhouse videoconferencing to the High Court, Csiro and OTC. It is also looking at trials with some NSW government agencies.

Videoconferencing need not be limited to within Australia. An international facility is available through OTC.

According to OTC's Greg Baxter, who has responsibility for the new Videoconferencing Service, a number of multinational organisations have installed private corporate studios — particularly in the US — and they use OTC to link up with their Australian subsidiaries. Others use public facilities similar to those provided by OTC.

But irrespective of the venue, rather than incurring the expense, dislocation and inconvenience of having executives travel to the other side of the globe for important meetings, a trend is emerging to hold a videoconference.

This option has become especially attractive in recent months because the new OTC videoconferencing facilities are using the latest compressed bandwidth digital technology to slash the costs of international videoconferencing transmission.

An OTC digital videoconference costs less than a third of the price of conventional analogue services.

For example, full end-to-end transmission costs are as low as $A3500 an hour for a meeting-style digital videoconference between Los Angeles and Sydney, compared with more than $A20,000 for the analogue equivalent.

OTC's international digital videoconferencing service provides two-way sound and vision.

Digital videoconferencing uses the Intelsat Business Services (IBS) operating at 1.544 or 2.048M-bit/sec. The analogue vision and audio signals at each end are converted to a digital stream and transmitted via satellite between the two destinations. Full motion pictures and high definition graphics can be sent in both directions.

To accommodate videoconferences, OTC has constructed a modern studio at its head office, 231 Elizabeth St, Sydney. Facilities in Melbourne are just being completed.

If customers require international videoconferencing facilities at their own office, then OTC can arrange to bring the service to their premises through a range of mobile options. Furthermore, engineering expertise can be made available if customers wish to construct their own permanent private studio.

"OTC's international digital videoconferencing offers a convenient and efficient, quick-response service for companies

(Continued page 24)

Does it mean goodbye to airline coffee and Mascot taxi rides?

(Continued from page 23)

working in an international market," said OTC's managing director, George Maltby.

The first group to use the service, executives from the Brisbane-based Palmer Tube Mills Group visiting Sydney, met with counterparts from associated Welded Tube Company of America, 20,000 kms away in Chicago.

The chairman and managing director of Palmer Tube Mills, Ross Palmer, said: "The only noticeable difference in using OTC Videoconferencing is that you cannot shake hands with the overseas colleagues, but otherwise it is just like sitting across the table from one another."

The main uses to date have been for project management conferences, product launches, progress reports on overseas marketing programs and even the hearing of evidence from an expert overseas witness in a court case.

"OTC International Videoconferencing is the perfect answer when regular meetings are called for, or when a number of people have valuable contributions to make," explained Greg Baxter.

"It is invaluable when you simply cannot leave your home or office yet still need the security and absolute confidentiality of a private meeting, face to face.

"It is not a replacement for productive business travel, but an adjunct — the next best thing to being there."

You can meet in confidence with colleagues in a number of countries together or separately.

Audience participation

All nominated personnel can be present; executive time is well used; and issues raised can be put into action immediately, without loss of time or impetus.

Cameras and microphones are unobtrusive; no special lighting or make-up is needed; graphics and other visual devices can be shown on screen; written material can be passed from hand to hand by fax facilities located in the studio.

Once a company decides to call an international videoconference, OTC takes care of all the details, both technical and organisational.

The "conference room" is also equipped with a telephone, photocopying and facsimile equipment, and a meeting room for pre- and post-conference discussion.

OTC Melbourne's conference room studio is similarly efficient and features portable equipment. If necessary these portable facilities can be transferred and set up at the client's premises.

Another type of international videoconferencing is available through OTC for those occasions when an organisation needs to communicate with a large audience.

International product launches, motivational programs, shareholders' meetings and industry seminars can be conducted in Australia and seen simultaneously, right around the world.

What's more, the international audience can participate vocally and interact freely throughout the conference; guest speakers can contribute without leaving home; and the organisers have complete control of the mood, tone and content of the entire presentation.

The main users of videoconferencing are:

- **In business:** For regular management meetings; for personal contact with overseas clients between visits; for close management of remote projects; for handling crises quickly and efficiently;
- **In education:** For the exchange of ideas and information between, say, tertiary institutions; to provide lessons to students in other countries;
- **In politics** and professions such as architecture, engineering, stockbroking and many others: for international round-table conferences;
- **In medicine:** for consultations between international colleagues where X-rays, scans — even the patient — may need to be involved; and
- **In any** industry or profession when a large international audience needs to be reached, simultaneously.

Already OTC is providing services to the United States, Japan and Hong Kong but the list will soon include Italy, Germany, the Netherlands, the United Kingdom and France.

In a move developed from a desire to use downtime on the network's satellite transponder, Australia's subscription television network Sky Channel is rapidly moving into corporate boardrooms as well as the bars of the country's pubs and clubs.

The Sky Channel satellite network has become a strong force in the teleconferencing and videoconferencing market.

"This has become the newest form for corporations and Community Services to communicate nationally," the chief executive of Sky Channel, George Brown, said.

"And Sky Channel is in a unique position to provide this new form of communication."

Sky Channel has been in the video conferencing market for about 18 months in which time it has produced about 30 link-ups.

The nature of these has varied from new product launches for companies such as Nissan, Ford, Continental Airlines and Thrifty car rentals to interstate conferences for companies including Bond Brewing, Caltex and major banks.

Sky Channel recently facilitated a pioneering, statewide link-up involving 1600 delegates from 1200 Neighborhood Watch areas in NSW.

Downtime has proved to be one of the unique advantages Sky Channel has over other corporate teleconference organisers.

"We have our transponder 24 hours a day," said Sky Channel's operation manager, Tim McDonald.

"Other operations have to go out and try to book time on a transponder."

Another advantage of Sky Channel's operation is the huge size of its network. "No one can get to as many sites as us," McDonald said.

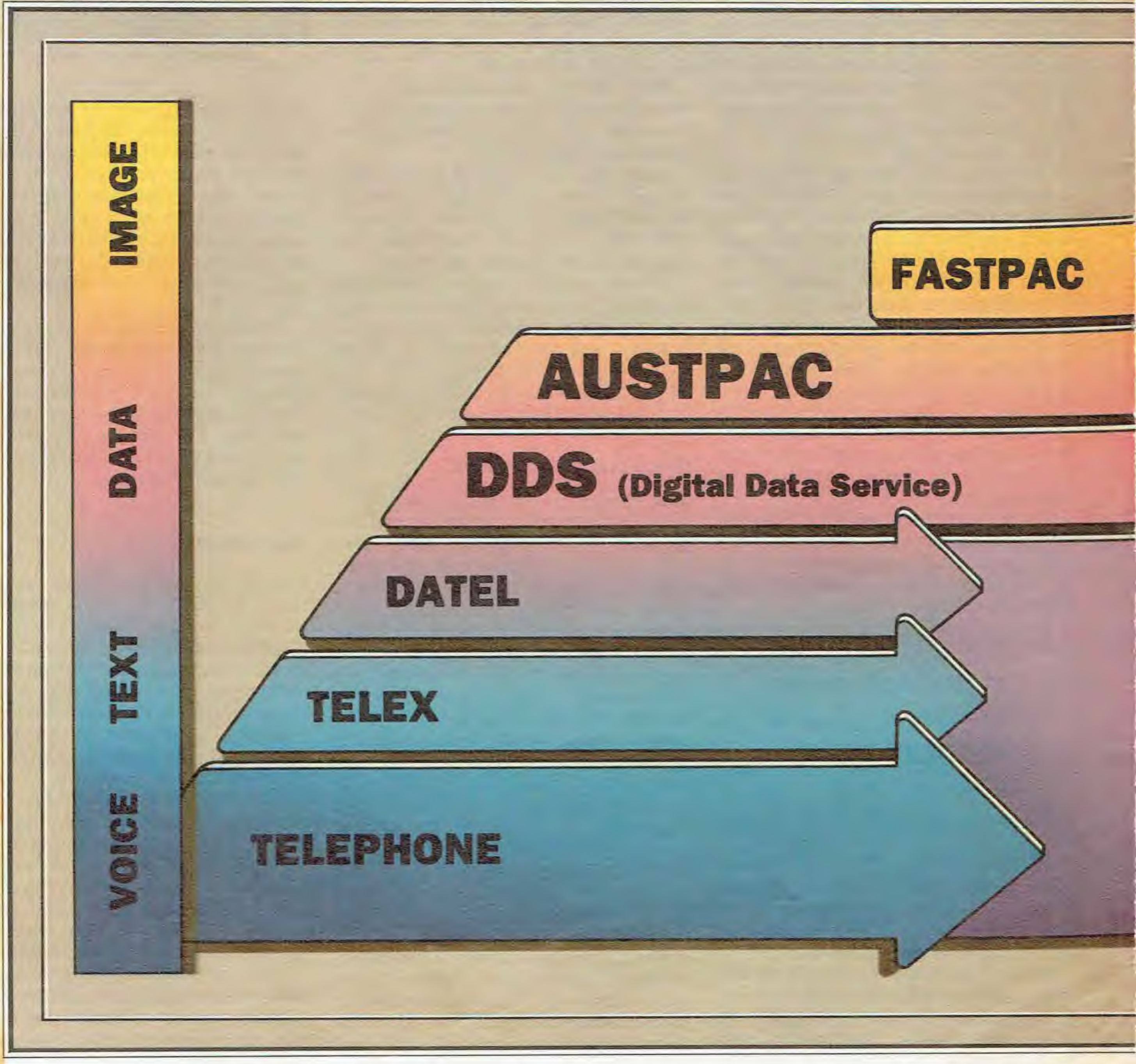
Sky Channel's operation also provides absolute security over the operation.

Using the B-Mac decoding system, Sky Channel's control centre at Frenchs Forest, Sydney, can dictate which receiver can access the signals and which will not.

"There is no way anyone can break the access code for this. It is in our computer and only one or two senior executives can get to it," McDonald said.

"So companies can preview new product to its sales staff a month or so be-

(Continued page 25)



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DDB TAT 4311/L

GOVERNMENT NETWORKS

Federal department embraces OSI, adopts X.25 standard

SYDNEY — In line with a widespread government trend, the Department of Primary Industries and Energy has embraced the Open Systems Interconnection model (OSI) and adopted X.25 as the standard transport protocol for its departmental data communications.

Case Communication Systems' multi-node X.25 packetswitching processor has been selected to form the network hub of the system.

"We chose X.25 because it is the most widely accepted protocol standard for data communications, and the units we have installed here have considerably improved the switching ability of our systems," a department spokesman said.

In selecting the Case X.25 processor, the department ensured that its present communications architecture would not limit the selection of information processing subsystems in the future.

"Our communications network extends to each capital city, including 10 sites in the ACT, with some 600 users on a variety of minis and mainframes. Each user has access to applications running either locally, or from our ACT base," the spokesman said.

These include management information, financial, and manpower planning systems.

"The Case Multi-Node offered the switching throughput we needed and gave us all the flexibility we could want — at a very economical cost," he said.

Redundancy was also an important consideration in the specification.

To minimise downtime, the central hub of the system has two Case units, configured identically. Each device is capable of supporting the entire switching load, based on projected requirements.

"Another reason for purchasing Case equipment was that the Case unit is very compact in size; compact in terms of power and price," the spokesman said.

The department will connect all its Wang and IBM systems through the dual multi-node front end.

"Interstate users access the system via two Telecom Netplex services. This reduces the number of lines required into the building from 15 to eight. In addition, there are two Austpac links, accessible eventually through the Case X.25 switches."

The Department of Primary Industries and Energy is not the only government department enthusiastic about Case's new generation of X.25 equipment, according to Graham Link, Case's ACT branch manager. This month, his company will have more than 80 X.25 switching nodes operational in the Federal government arena.

"This demand is indicative of the widespread acceptance of the OSI standards in government. In recent years there has been much concern over the proliferation of proprietary protocols in communications, and the difficulty of achieving a truly open system in such an environment," he explained.

"X.25 offers the only standardised growth path remaining totally independent of the vested influences of computer suppliers, more interested in the dominance of their 'standard' over that of their competitors."

Goodbye to airline coffee?

(Continued from page 24)

fore the launch, knowing that they are doing so with complete security.

"If it is a new car, for instance, they know that details will not be picked up by the opposition."

The business community has found this to be of critical significance.

"Largely because of this security, building societies, banks and other financial institutions report this system to be the biggest breakthrough in communications in the last 25 years," Brown said.

Sky Channel provides two types of teleconferences. First, there is relatively simple boardroom to boardroom link-up.

"This is when someone such as the Chief Executive simply wishes to address staff in other States," McDonald said.

"We can provide a two way link, which allows for questions and discussions, or a one-way link."

On a grander scale there is the facility that the leader of the Federal Opposition, John Howard, used earlier this year to address delegates in Sky Channel's 5000 hotel and club outlets in his first speech for 1988.

Primarily intended for members and supporters of the Liberal Party, his key note address also went to an extended audience outside the party.

Some organisations have used the other facilities available at Sky Channel venues, arranging such things as breakfast to accompany the business.

The method of transmission is identical to a telecast of a sports event. "The signal comes from a venue, is beamed to a satellite and then down to receivers," McDonald said.

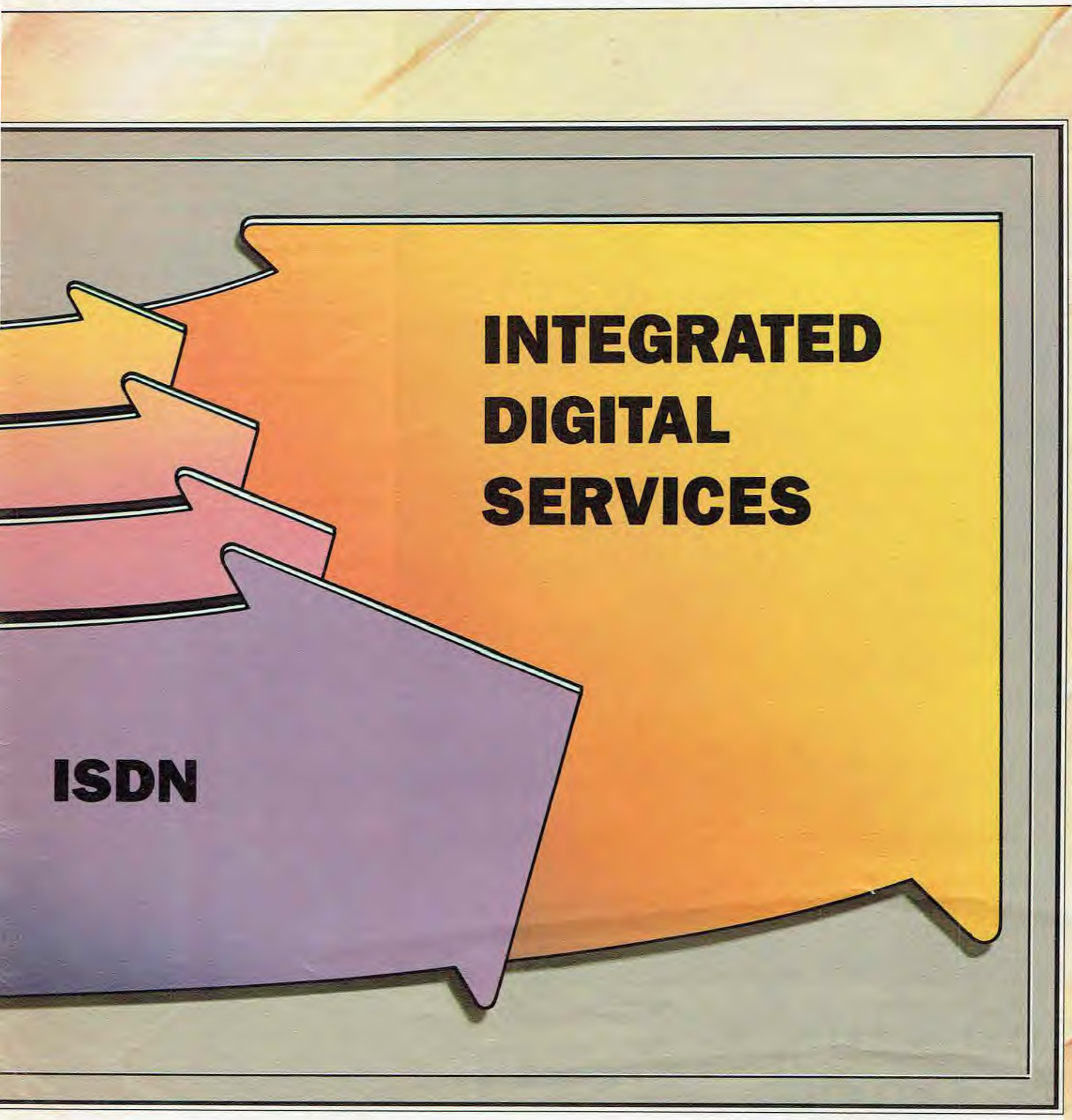
The Sky Channel operation uses free time on its Aussat 3 transponder. "It is a national beam which allows us to deliver anywhere within the country," McDonald said.

Future developments

Already a reliable and economic technology, videoconferencing practice is evolving into three main groupings:

- Fully-equipped studios (such as Telecom's) which, to be economically feasible, need to be used many hours each day;
- Roll-about (portable) units used in meeting rooms and other locations; and
- Desktop video systems (made increasingly viable by fibre-optic and satellite transmission, and the soon-to-be introduced ISDN).

Videoconferencing may well eventually become a standard communications tool. "We are trying to make videoconferencing a routine day-to-day activity," said Helene Terpak, operations manager, videoconferencing, Telecom Australia.



e evolutionary path?

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DDB TAT 4311/R

CORE REPORT

Profile: West Australian company nets public sector business

WEST Australian company, Computer Protocol Pty Ltd, has positioned itself as a leading data communications supplier for government utilities in Australia.

By offering a networking approach which allows their customers to connect a variety of technologies and equipment from different suppliers, they have experienced tremendous response in overcoming the number one problem facing governments and businesses.

New South Wales: Computer Protocol's development of a wide area network (Wan) for the Public Service Board of New South Wales, is proof that government utilities in Australia are leading the public and private business sector in the adoption of innovative, technologically advanced communications systems.

The new system, which will be completed by December 1988, is anticipated to expand to be the largest, most flexible State Government network in Australia. It has already facilitated a reduction in equipment duplication, improved communications to remote areas, and decreased document processing time. The number of connected devices will be in the order of 1600 at over 160 locations throughout New South Wales.

The PSB chose Computer Protocol because the flexibility in their equipment enabled the network to run every protocol the PSB used, including SNA, Async, TCP/IP, Uniscope and X.25. The network is based upon Computer Protocol's CS410 and CS432 network processors, enabling true vendor independence and the resulting connection of 750 low cost asynchronous terminals and 250 IBM PS/2 microcomputers in a distributed environment.

The network will assist a growing number of users, including the Department of Family and Community Services, the Tourism Commission, the State Land Information Council and the Land Titles Office.

Telecom Australia has also placed major orders for Computer Protocol equipment for many of its internal applications. Telecom found that the major advantage of Computer Protocol's communication devices, was that they provided value added networking functions by allowing access to all of their computers from single workstations. The improvements in efficiency and cost per connection of each workstation function is dramatic.

Queensland: Queensland's major installations include the State Government's Centre for Information Technology and Communications (Citec), Queensland Police Department, various Telecom sites and Sanctuary Cove.

Citec, previously the State Government Computer Centre, is a major user of Computer Protocol's broadband Lan system, as well as the CS400-range hardware providing multihosting to Unisys (Sperry 1100's), IBM (3090 and 4381), Prime and DEC, for both inhouse and remote government terminal users.

Asynchronous VT220-type terminals are used as a universal presentation terminal in conjunction with Computer Protocol's gateway and emulation software intended to form the basis of a statewide vendor independent network. Installation of this network commenced in early 1987, and apart from terrestrial Telecom-supplied services it will use facilities provided by the recently privatised QNET satellite service.

Computer Protocol's "split emulation" facility provides presentation level conversion at the remote site. Bit level transmission protocols transport the converted screen formats to various host sites, where the remaining lower level gateway protocol conversion is completed. This mechanism is particularly suited to satellite transmission, and overcomes the delay problems and polling inherent in the transmission of byte level protocols.

Direction toward Unix

Queensland Police Department and Sanctuary Cove also have Computer Protocol broadband Lans. At Sanctuary Cove, asynchronous access is provided on a 35km cable plant which carries video, security, audio and data. The Queensland Police Department has CS410 and CS432 network processors installed, accessing an ICL VME environment and will eventually multihost to other environments. The Department will be an initial user of the new Oslan interface.

Telecom has a number of sites in the Brisbane metropolitan area utilising Computer Protocol's Honeywell, Facom, Hewlett Packard and X.25 gateway and emulation software to access Telecom systems in Queensland and other states.

There is a strong direction within the Queensland government toward the acceptance of Unix as the standard operating system. This is because of its multi-user and multitasking capabilities, and widespread availability. Previously however, Unix environments have been generally unable to extend into the more traditional environments of IBM, Honeywell, Sperry, ICL and so on. Computer Protocol's new TCP/IP developments are seen by many as the logical extension to overcome these problems, presenting a solution for those TCP/IP networks which require communication with non-TCP/IP mainframe environments.

Victoria: Computer Protocol is also making its presence felt in the Victorian government sector. With a large network currently installed at Telecom — Operation Support Systems, the latest developments include pilot installations in the State Department of Housing and Construction and the Attorney-General's Department. The Commonwealth Government's Central Army Records Office is also the recipient of a newly developed pilot installation.

South Australia: Computer Protocol is currently installing a major network for the South Australian Gas Company (Sagasco) using CS410 and CS432 network processors.

Terminals, printers and PCs will be connected to the Fujitsu M360A mainframe and two Digital Vax machines using the network. The network will extend across the State, incorporating the city head office, a number or metropolitan sales offices and depots in rural centres of South Australia.

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PRODUCTS & SERVICES

THE LATEST FROM VENDORS AND CARRIERS

And now for a product you may not like!

DATACRAFT Australia has released an addition to its NetCraft range of 2M-bit products that network managers and technicians will probably learn to hate! It is the 460 NetCraft Auxiliary Network Manager that allows network staff to maintain contact with the network nodes while they are away from the operations centre, where the main network management platform resides.

Used in conjunction with either a NetCraft 4601 Network Manager or the 4601P (point to point) Network Manager, the 4601A provides 24 hour network monitoring as an alternative to round-the-clock staffing of the operations centre.

The 4601A runs on an inexpensive laptop computer equipped with an internal modem. This package keeps the network manager in touch with the network from wherever the public switched telephone system extends.

The 4601A is able to access all of the node mangement functions that can be accessed through either the 4601 or a locally connected Ascii terminal.

The 4601A is a portable human interface that can connect directly to any network node. This makes it an essential tool when visiting node sites. Also, for problems that require node configuration changes, the save and restore feature of the 4601A allows new configurations to be saved to disk and later restored at the node. The 4601A claims to make efficient use of resources since a single 4601A can be shared among many network nodes.

The 4601A communicates with the network nodes using an error-correcting, X.25-based protocol called the Control Packet Switching System. The 4601A can also emulate an Ascii terminal. Although optimised to run on a laptop computer for maximum convenience, the 4601A will also run on an IBM PC/AT or a Personal System 2.

Datacraft (Aust) Pty Ltd, Tel: (03) 727 9111.

Datamatic announces display controllers

DATAMATIC Pty Ltd has announced a new series of high-performance display controllers designed for use in VME-bus based systems. The Metheus 1000VM-Series consists of six models, covering a range of resolution and bit plane options. The 1000VM-Series derives its performance from the use of Metheus' new VLSI graphics components. The Graphics Processing Unit (GPU) is a single chip general purpose processor optimised for graphics and rated at 4 Mips. The Memory Control Unit (MCU) chip controls raster memory and carries out low level graphics tasks such as vector drawing, filling and pixel block transfer (PIXBLT). The GPU/MCU combination achieves random vector drawing rates of 13 million pixels/second, irrespective of the angle and length of the vector. In addition, performance remains at this high level as the number of bits per pixel increase.

Resolutions offered in the 1000VM-Series are 1024 × 768 (from a 1024 square bit map) and 1280 × 1024 (from a 2048 × 1024 bit map) with either 4 or 8 bits/pixel and optionally, 4 bits of overlay. Since the board uses surface mount technology with the highly integrated Metheus VLSI components, all configurations occupy just one VME slot (standard height). The 1000VM Series is opcode compatible with Metheus' 1000 Series.

Datamatic Pty Ltd, 16 Suakin St, Pymble, NSW 2073. Tel: (02) 449 8133.

Low-cost model released

LABTAM Information Systems has just released an updated version of its 32-bit multi-user Delta system. Standard features include 4M-bytes of Ram, 145M-byte hard disk, eight serial asynchronous ports, a parallel printer port, 60M-byte streaming tape and an operating system licence.

The new Delta is designed to support up to 32 users. It is also expandable up to 16M-bytes of Ram and 1.2G-bytes of hard disk. Labtam's Delta supports the de facto standard TCP/IP protocols over Ethernet, providing remote login and file transfer. The Network File System (NFS) allows remote file access by other systems, including PCs. The system V.3 Remote File Sharing (RFS) feature is also supported.

Labtam Information Systems Pty Ltd, 43 Malcolm Rd, Braeside, Vic 3195. Tel: (03) 587 1444.

QuickMail for Mac nets

KEYWAY Computers has announced the Australian release of QuickMail, an electronic mail (e-mail) communications package which runs on any Macintosh network.

QuickMail sends and receives messages for users within a local network; provides connectivity for dialin users on a modem; and connects to other networks (local or remote), by sending mail across a software bridge.

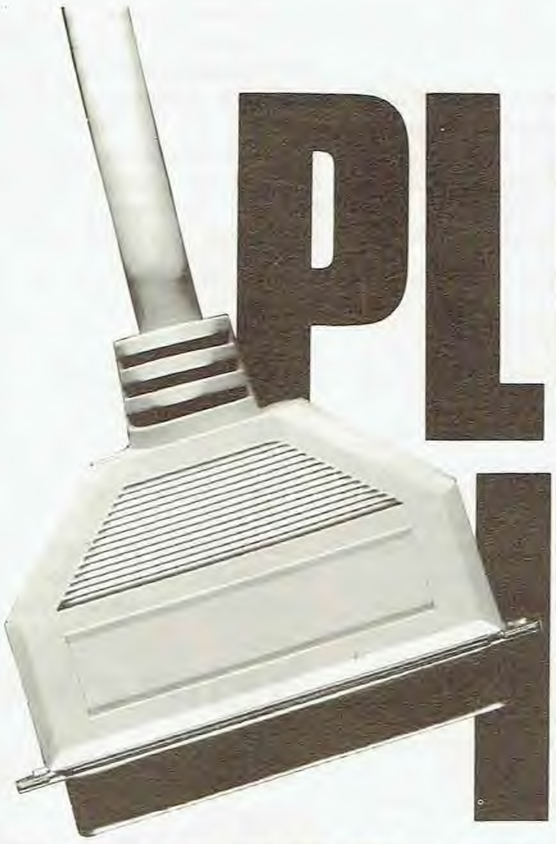
QuickMail runs on AppleShare, 3Com, Ethernet, MegaMac, Novell, NuvoTech and Tops networks and can communicate with commercial e-mail systems such as KeyLink, MayneMail and Compuserve.

The Macintosh Division, Keyway Computers Pty Ltd, Tel: (02) 660 5692.

Direct connection to Ethernet networks

GANDALF Pacific have announced new local are network (Lan) software which allows users to access any Ethernet-based resources as well as any other resource on the Starmaster system network with a single signon. The Lan software improves throughput of Ethernet networks by concentrating data from geographically dispersed terminals into the Starmaster system where the data from the various subscribers is packetised. This reduces access requests imposed on the Ethernet network, enhancing the efficiency of the overall system.

Gandalf, Suites 101-102, 48 Chandos St, St Leonards, NSW 2065. Tel: (02) 437 5977.



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03 Office Manager/Supervisor
04 Director/Manager of MIS
05 Director/Manager of DP/ADP
06 Projects Manager/Other group MIS or DP management
07 Systems Software — Management/Development
08 Operations — Management/Supervisor
09 Systems Analyst/Designer
10 Analyst/Programmer
15 PC or Micro Manager/Specialist
21 Engineering/Manufacturing Manager, Draftsman
23 Scientist/R&D/Other Technical Manager
25 Sales/Manager
26 Educator/Librarian
27 Professional (Lawyer, Doctor, Health etc)
20 Computer Consultant/Contractor
28 Student/Research
31 Self Employed
29 Other

INDUSTRY *(please circle one only)*

Computer related businesses

01 Manufacturer (computers, peripherals, comms, other hardware)
25 Software/Systems/Integrator/VAR
16 Computer consultant
17 Computer distributor/wholesaler
18 Computer retailer
03 Services — bureau/planning/maintenance
15 Other

Non-Computer related businesses *(please circle one only)*

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14 Armed Forces
04 Public Utilities/Transportation/Communications
05 Wholesale/Retail
06 Finance/Insurance/Banking
07 Agriculture/Mining/Construction/Oil & Refining
12 Health & Health care/Medicine/Medical Services
09 Education
13 Law
19 Other Professions
08 Business Services/Real Estate
11 Printing/Publishing/PR & Advertising
20 Other

Effective Oct 1, 1988

PRODUCTS & SERVICES

TCP/IP gateway, workstation for Netware

COM Tech Communications Pty Ltd, distributor of Micom Interlan networking products, has released the Micom Interlan TCP Gateway and TCP workstation, a hardware/software package which allows IBM and compatible personal computers on any Novell NetWare-compatible Lan to communicate with TCP/IP host computers and simultaneously access Novell Netware file servers.

The TCP Gateway provides access from Novell Netware subnets to multivendor hosts running TCP/IP on Ethernet. The Gateway is a multi-user, server-resident product which supports IBM PCs, XTs, ATs (and compatibles) and PS/2 workstations. It separates TCP/IP and Novell NetWare IPX traffic, thereby providing host connectivity without file server performance degradation.

The TCP Gateway allows users on any subnet to communicate with host computers running standard operating systems such as Berkeley 4.2/4.3 Unix, DEC's Ultrix, VMS and Tops-20, Unix System V, and Xenix. The Micom Interlan TCP/IP Gateway software provides application programs which offer NetWare users familiar interfaces and applications program flexibility for any supported subnet. The Gateway user interface is identical to the Novell menu structure. The menu system has context-sensitive help screens which allow users to quickly access a wide range of TCP/IP utilities, such as Telnet, FTP and Rutils. Applications include file transfer, remote log-in, and terminal emulation.

The TCP Gateway package includes an NP600G Ethernet protocol processor and software, installed in any IBM PC AT-compatible file server. Users on any NetWare-compatible Lan can access and utilise TCP Gateway services via the NetWare bridging facility. The TCP/IP Gateway package is available immediately from Com Tech dealers, at a recommended retail price of $A6500 (ex tax). Dealership enquiries are welcome.

The Micom Interlan TCP Workstation, a hardware/software package which allows IBM and compatible personal computers on an Ethernet Lan to communicate with TCP/IP host computers and simultaneously access data and applications on Novell Netware file servers.

It allows communication with host computers running standard operating systems such as Berkeley 4.2/4.3 Unix, DEC's Ultrix, VMS and Tops-20, Unix System V, and Xenix.

The Micom Interlan PC/TCP software provides support for applications such as file transfer between host and server, PC and PC, and PC and host. It allows emulation of terminals such as DEC VT100s, IBM 3270s and DEC VT52s for remote log-in purposes, and provides electronic mail facilities. Other applications provided include print spooling, user lookup, network testing and backup.

The package integrates TCP/IP with Netware, and supports industry standard communications such as Netbios, Arpa TCP/IP protocols, and Berkeley Unix utilities. The TCP Workstation is supported by a half-size Ethernet interface card, the NI5210, for use with IBM PCs, XT, ATs and compatibles.

Com Tech Communications Pty Ltd, 75 Erskine St, Sydney, NSW 2000. Tel: (02) 290 3477.

PCI expands with range of high-speed servers

PERIPHERAL Computer Industries (PCI) Pty Ltd, a specialist in Winchester disk repairs and storage sub-systems, is expanding its operation through a range of Australian-manufactured medium range, high-speed network servers.

The servers, to be marketed under the name Woomera, come in a number of external and internal configurations.

The external units, fitted inside Tower-style cabinets, will feature up to four 760M-byte hard disk drives and 8M-bytes of Ram in cache. Worst-case access time is said to be 0.5M/sec.

The Woomera range, claimed to be compatible with networks of 286, 386 and IBM model PS/2 microcomputers running under the Dos, SCO Zenix or Novell 2.1 operating systems, all feature the Motorola M68000 microprocessor. The range is also said to be compatible with Novell's SFT (System Fault Tolerant) Level 2.

Each server can be supplied with host adapters and external cabling.

The internal systems, consisting of several boards, are designed to be mounted inside 286, 386 and Model PS/2 microcomputers. They feature 140M-byte, 240M-byte or 330M-byte voice-coil hard-disk drives, controllers and cabling.

Transfer rates for these internal boards — which can run up to seven drives simultaneously — are claimed to range to 10M-bits/sec.

According to PCI's marketing manager, Keith Hardwick, the Woomera range is suited to medium to large networking users needing to transfer large amounts of data, such as users with large databases, Cad or desktop publishing applications, or financial and money market operators.

The Woomera will be assembled and checked at PCI's Wetherill Park, Sydney, manufacturing facility. The subsystems will be supported in the field by PCI.

"The Woomera range of servers is flexible enough to allow systems to be designed around individual users' needs," Hardwick says.

Peripheral Computer Industries Pty Ltd, PO Box 820, Parramatta, NSW 2150. Tel: (02) 604 8544.

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Synchronous board for IBM, compatible PCs

NETWORK Software Associates has announced AdaptModem V.22bis, a new synchronous/asynchronous communications board for IBM and compatible PCs, XTs, ATs and PS/2 (models 25 and 30) which provides a single-board connectivity solution by integrating the functionality of three separate communications boards.

AdaptModem V.22bis supports PC-to-PC, PC-to-Mini and PC-to-Mainframe communications using the international CCITT V.22 standard. It combines a synchronous modem, an asynchronous modem, and a multiprotocol Synchronous Data Link Control (SDLC) adapter which supports such SNA protocols as interactive 3270, co-operative processing LU6.2/AAPC, batch 3770/RJE and program-to-program LUO.

In synchronous mode, AdaptModem V.22bis is said to operate at 600, 1200 or 2400 bit/sec. In asynchronous mode it operates at 0-300, 600, 1200 or d2400 bit/sec using the industry-standard AT command set. Other features include full-duplex operation, auto-dial, auto-answer, and support of dialup or leased lines.

It can be used for PC-to-PC communications and file transfer via SDLC; PC-to-PC, PC-to-Mini and PC-to-Host communications via LU6.2/APPC co-operative processing; and asynchronous or SNA/SDLC PC-to-Host communications via the 3270, RJE or LUO protocols.

SDLC PC-to-PC and multiprotocol asnyc SNA PC-to-Host are exclusive Network Software Associates features, according to the company.

AdaptModem V.22bis is also said to be compatible with standard async PC communications programs such as Crosstalk from Digital Communications Associates, and conforms to IBM's device-independent Systems Application Architecture (SAA).

ADE Computers Pty Ltd, 2 Dublin St, East Oakleigh, Vic 3166. Tel: (03) 543 2677.

'True portability' in Monetel EFT range

A NEW approach to electronic funds transfer which is said to greatly improve point-of-sale applications, bringing true portability, is a feature of the new Monetel P500 range from the French company Crouzet.

Adelaide-based Crouzet Pty Ltd is offering Australian businesses the Monetel P500 range.

Crouzet said the modular terminal was truly portable, small, and did not need a mains power source.

The general manager of Crouzet Pty Ltd, Pierre Ramiere, said: "EFT can now be extended to business and professions such as delivery people, taxis, service people, even paramedical professions.

"It opens new business opportunities from authorised plastic card purchases in situations where this was just not possible before."

The P500 range includes a portable card reader, printer, dealer's display/keyboard unit, Pin-pad, modem communication module, concentrated communication module, and a power unit.

Five terminal configurations handle different user needs.

Ramiere said software for payment by composite bankcards was available for all terminal configurations. Thanks to the architecture of the software, specific developments could be proposed to meet particular requirements.

Crouzet is looking for distributors with EFT/POS experience.

Crouzet Pty Ltd, Tel.(08(373 1244.

Network server operates with 100 workstations

ADE Computers has released the Opal 286 network server, which is said to be fully IBM-compatible, but to operate at up to 12MHz on Ethernet or Arcnet networks with up to 100 workstations.

"These workstations operating at 10M-bit/sec Arcnet can be located locally to the Opal file server or up to 1km away utilising fibre optics," said Bill Anderson, managing director of ADE Computers.

The file server can be supplied with disk drives up to 300M-bit capacity and can support up to four types of network cards for multiprotocol requirements, he said.

The filer server could also be operated in a standalone configuration or as a workstation to a larger network running TCP/IP software on DEC ethernet.

ADE Computers Pty Ltd, 2 Dublin St, East Oakleigh, Vic 3166. Tel: (03) 543 2677.

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TALENTED PEOPLE

ANALYST PROGRAMMER

Recently migrated to Australia from Yugoslavia with his BSc E.Eng, MSc E.E., this 28 year old man is interested in a position within the R&D software area.

He knows the control environment very well using MSDOS, Intel RMX 86 Real Time OS, 8080, 85, 86, 88, 31 +, PLM & Fortran.

Research was done in industrial robotics, simulators and PCB's. Pascal and C can be brought up to date if necessary and his salary requirement is in the $40,000 region.

English skills and presentation are very good and he appears to have very well directed energy to burn.

SYSTEMS ANALYST

At 35 years old this Systems Analyst has 9 years experience in the communications development field.

Having completed his BSc in Computer Science in Taiwan he has acted both as Design Engineer and Configuration Manager in the following:

GTD-5 (GSPR) IBM AT; MASTLIST Database; EAX Call Sequencer IBM Mainframes

The environment he has worked in includes; PL/1, COBOL Compiler, JCL, TSO, SPF, Panvalet, VSAM, SAS, Easytrieve, SPIBOL, MVS, SDSF, ISPF on both IBM 3000 and 4000 series.

A warm and friendly person who can relax, relate and respond to people professionally he seeks a $45,000 salary.

HARDWARE ENGINEER/DESIGNER

A 31 year old specialist in hardware design from India with Bachelor of Technology E & C has worked predominantly in the telecommunications development area on Graphic Analysers for control systems in BASIC, Satellite Ground Station operation written in IRMX86, Pulse Code Modulation systems on I8086, 1805 CMOS, RF, TV Receivers and more.

He has used Turbo C, CAD, Pascal, Fortran and Assemblers on IBM PC's.

A pleasant personality to work with he will require a salary no less than $28,000.

SYSTEMS ANALYST/PROJECT LEADER

This immaculately dressed professional 33 year old American man has over 10 years DP experience predominantly in COBOL on IBM 3090, 3081, 4381, IBM PC's HP3000 and DEC2060.

His Technical background includes MVS/XA, JCL, DB2, SQL, IMS, DB/DC. Applications include Error Message Correction and Tracking Systems for US West Communications including database design, mortgage loan systems for the Peoples National Bank in COBOL, Cellular Telephone Call Detailing, Rating and Billing System plus a 24 hour on-line call customer service function using TELON under MVS/XA on IBM3090.

In addition to this he enjoys managing people, user liaison and looks forward to his career developing from designing to project management. Salary in the mid $40's.

ANALYST PROGRAMMER

A 28 year old with Bachelor of Electronics & Comms Eng, Master of Arts in Eng Education (E & C Eng), Master of Arts in Business Administration (Majoring in Information Technology).

After instructing for 4 years at the Dept of Electronics & Comms Eng at Uni he acted as Systems Analyst/Programmer and developed systems in the manufacturing sector for 8 months. This enhanced his skill to include;

RF & Filter Design; Operational Amplifiers; Phased Lock Loops; Computer Network Design (LAN); Computer System Architecture; Electronic Circuit & System Design; Broadcast & Radar Communications; VLSI Design and Semiconductors; Fabrication Techniques; Crystal Pull Technology ...

He also used VAX/UNIX, CADVAX, SUN Workstations, CIRCAD nMOS and cMOS Technology.

As talented people are sought after, be quick to meet this very nice gent. Salary negotiable in the $30's.

POSITIONS VACANT

TECHNICAL CLIENT SUPPORT *Nth Shore.*

An experienced Data Comms EEC qualified engineer is sought with at least 2 years customer service background, either as a Duty Technician or similar, to look after the expanding customer base of our North Shore Client.

You will be responsible for the hotline support and bench repairs of Modems to Data Switches (DDN/DDS) involving their installation and ongoing support.

FIELD SERVICE SUPERVISOR *Nth Shore.*

Your responsibility includes the management of 5 Field Service Technicians in the Data Communications area of this well respected North Shore Company.

EEC qualified and a technical background in Modems and Data Switching along with excellent supervisory skills is required.

A salary package in the region of $40k-$45k is envisaged.

SALES ENGINEER — TRAFFIC SYSTEMS — *Package $55,000 +*

Very high profile manufacturing company seeks an experienced Electronics Engineer or E & C certified person with the technical ability to market the following products to Government.

Micro Traffic Controllers; Vehicle Detectors; Area Traffic Control Systems

This role has potential to lead to sales management of their Australia-wide base.

Aged between 30-35, you will report directly to the Marketing Manager and receive a salary package in excess of $55,000.

ANALYST PROGRAMMER — *City $Neg.*

This mid city bank has a vacancy for an A/P for the further development of their EFT/POS systems. Experience in on-line, batch and ATM's plus a good IBM background is desirable.

Many benefits accrue when working in this exciting environment.

Call Gillian Paterson to arrange resumes or confidential discussions. Ph: 267 8816.

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You will typically be working on sales in the region of $250,000 to $1 million often through the tender process, so your skills in high level negotiation and strategic sales planning are most important.

This is an opportunity to join an organisation which will enhance your credibility and prestige in a competitive environment, and where your rewards will be in line with your success.

If you are not already based in Canberra you are probably unaware of the lifestyle benefits and long term career opportunities available. Naturally our client will assist with reasonable relocation costs.

For initial confidential enquiries, please phone Anne Everitt on (02) 909 2782 this weekend or on (02) 221 3855 on Monday or send your resume in strictest confidence quoting Ref. No. S277/233 or fax to (02) 221 1367.

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PRODUCTION ENGINEERING MANAGER

Our client is a leading international manufacturer of sophisticated analogue and digital communications systems. In Australia their Manufacturing Division employs nearly 200 people manufacturing 7000 PCBs per month assembled into systems well respected in this multi million dollar market. Sustained business growth has created the need for a dynamic Production Engineering Manager to plan and manage the implementation of a new surface mount manufacturing facility over the next year. With a capital expenditure budget in excess of $1 million your department will be responsible for doubling manufacturing capability, improving overall quality, and lowering manufacturing costs. The competitive position thus achieved will lead to further export opportunities. You will report to the Divisional Chief Executive and be a key member of a small team of dedicated, internationally experienced managers. This job is not for the fainthearted, but will suit an ambitious production/industrial engineer with tertiary qualifications and a desire for career growth in manufacturing management. If you are in your 30's with experience in the electronics industry, good verbal and written communication skills and an ability to set objectives and meet targets, you should call us now. This is your opportunity to make a mark on the electronics industry in Australia. Overseas travel will be a requirement of the job and an attractive remuneration package including company car will be negotiated to attract talented candidates.

For further information and to arrange a confidential discussion phone **Phillip Campbell** on **(02) 95 95 111** or send resume to Executive Consulting Services P/L, Level 35 Northpoint, 100 Miller St., Nth Sydney 2060. (Fax 959 4312)

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PRODUCTION CONTROL

Our client is a leading international manufacturer of sophisticated analogue and digital communication systems. In Australia their Manufacturing Division employs 200 people manufacturing 7000 PCBs per month. Sustained business growth has created the need for a **Senior Production Planner** with the potential for promotion to **Production Controller** in twelve months. Candidates with complete or nearly complete tertiary qualifications in production engineering, production control or management, who are computer literate and possess a thorough understanding of the use of MRP2 will find this a challenging career development role. Assisting the manufacturing team in doubling capacity over the next year will test your persistence and your ingenuity not to mention your patience! An attractive remuneration package will be negotiated to attract talented candidates.

For further information and to arrange a confidential discussion phone **Phillip Campbell** on **(02) 95 95 111** or send resume to Executive Consulting Services P/L, Level 35 Northpoint, 100 Miller St., Nth Sydney 2060. (Fax 959 4312).

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Stress: chic malady or real problem that needs to be handled?

By Patricia Keefe

WASHINGTON — As with the so-called yuppie disease — chronic fatigue — it is easy to dismiss stress as one of the more chic 1980s maladies. But let's face it: Communications management can be pretty hairy.

With that in mind, the most recent issue of *CMAgazine,* published quarterly by the Communications Managers' Associations (CMA), has taken a look at stress and its effects on productivity and management.

Ask any telecommunications manager where stress comes from and you are likely to get a response along the lines of "Where should I begin?". Recent US *Computerworld* readership surveys finger the following as the major culprits: keeping up with technology, managing equipment, user demands and budgetry constraints.

An informal survey of CMA and non-CMA members adds these contributors: organisational restructuring, such as joint management of voice and data systems; mergers and acquisitions, which can result in layoffs; information overload; and an ever-increasing duty roster.

Not surprisingly, many telecommunications managers feel powerless, being pulled as they are in so many different directions. As a result, many do not handle stress effectively, the magazine claimed.

It is important that managers learn to cope successfully with stress; otherwise they will also be saddled with any or all of what CMA perceives as the most common effects of excessive stress:

- **Decreased productivity.** Staffers begin missing deadlines;
- **Negativity.** Employees spend more time complaining than working;
- **Decreased communications.** People tend to communicate less when they are under stress;
- **High Turnover.** This can prove costly, given the need to hire and train replacements.

Other effects include excessive daydreaming, chronic absenteeism and frequent illness.

The closest CMA comes to providing a golden rule for handling stress is to suggest that "control reduces stress".

The magazine recommends that managers first identify the cause of their stress. The next step is to devise a strategy to shield themselves better from the negative aspects of stress while addressing the problem, thereby increasing their potential to alleviate the pressure.

More detailed techniques for identifying stress on the job and methods for controlling its impact will be covered in future issues of the magazine.

AWA into Smartcards

SYDNEY — AWA has acquired a controlling interest in Electronic Transactions Pty Ltd, the Australian distributor of advanced technology "Smartcards" and their readers, made by European electronics leader Schlumberger Industries.

Schlumberger Industries has some 70 per cent of the Smartcard world market, with production now of two million cards a month, AWA claimed.

Electronic Transactions will form part of AWA's distribution and components sector. Ian Powrie, executive general manager of the sector, said that Smartcard technology had been developed to replace less secure media such as the embossed and magnetic strip cards.

When the cards are on the table, a business like this one needs little introduction

OFF LINE

BY NOEL BENNETT

SCENE: The annual general meeting of the Nice Knowing You Printing Company Pty Ltd . . .

Chairman: Ladies and gentlemen, fellow shareholders. I presume you have all read the annual accounts and there is little for me to add in that direction. But in the way of all public speakers, I will.

(Knowing, appreciative titters from the shareholders.)

Chairman: May I say, fellow shareholders, that the past year has been remarkable. Yes. Remarkable. Never did I expect that we would boost net profits by 500 per cent to break through the magical one billion dollar barrier despite the fiscal fiend, or as others would know him, the Taxation Department, putting us through the hoops, so to speak.

(Applause from shareholders.)

Chairman: Thank you, thank you. The results speak much louder than any words of mine of the enterprise, just plain hard work of our staff in seizing upon the opportunities provided by the volatile personnel market. To the staff.

(Shareholders join in with loud applause sprinkled with booming "hurrahs".)

Chairman: Thank you, fellow shareholders. For a moment I will wander down memory lane, even though the lane is but short and has now broadened to a freeway.

We began as a humble company, supplying business cards. Our business boomed not only because of our splendid service, our competitive pricing, but also because our nation caught the Japanese disease. Business cards were no longer a humble appendage, but became a symbol of honor — of status, prestige, presented at every opportunity to everyone in the vicinity, on both business and social occasions.

Indeed, I have heard instances of where a busy businessman, frequently away overseas, has presented his card to his family, just in case they have forgotten who he was.

Such is the respect now accorded to the card that it is not at all unusual to see people bowing deferentially when exchanging their cards. Rather than crossing swords, we present cards.

(Sniffles from some of the older, sentimental shareholders.)

Chairman: And then, then with true inspiration, our managing director, Mr Robert Thinklong . . .

(Applause from shareholders.)

Chairman: Well deserved praise. Yes. Well deserved, for Mr Thinklong conducted research into the teen market and on receiving encouraging findings, launched a full marketing campaign based on the jingles, featured on radio and television rock shows, "Your Card is You", and "Where is My Card Tonight?"

Results exceeded expectations. As you know we had a two-for-five share issue to raise required capital to move to larger premises and instal more machinery to cater for increased demand. Then, in another inspired move, a splendid example of lateral thinking, Mr Thinklong introduced our Move On service for companies.

When a client signs for the Move On service, we not only take responsibility for printing cards for new employees, for those changing positions, but also for those leaving the employ of the client.

We change or insert new names on doors, in the internal telephone directory and for those leaving, we conduct a thorough "clean out your desk" service.

Also the Move On service provides an option whereby we will affix suitably designed cards for use of gravestones or caskets for those fallen during the great-battle for their employers.

The Move On service has been greatly appreciated by our clients and has contributed in no small way to our outstanding profit performance.

(Loud clapping by shareholders, some also standing on chairs shouting "Bravo".)

Chairman: Ah, fellow shareholders. Fellow shareholders. Save your applause, your lungs for what I have to announce will surely demand every skerrick of your strength to show your gratitude, your appreciation of the genius which resides within Mr Thinklong.

(Shareholders become silent, tense, leaning forward on their chairs.)

Chairman: Two months ago, Mr Thinklong approached the board with an idea so revolutionary, so . . . so . . . so imaginative and yet so simple that, unfortunately, one of our directors, Mr Cardworthy, suffered a fatal heart attack and to whose family we extended our Move On service in their time of bereavement.

This is it, fellow shareholders.

(The chairman unveils a small black box with a cord running to a power point. The audience is hushed, puzzled.)

Chairman: The Nice Knowing You Unperson Personal Shredder. As Mr Thinklong explained, it is so difficult to tear up business cards, both those received from others and those that have accumulated during one's career, even with the one company. Try tearing up some hundred or so cards.

As Mr Thinklong demonstrated, it is difficult, tiresome and frustrating. And so, inspirationally, he devised the Unperson Personal Shredder, which has received wild acclaim during secret test marketing . . . and . . .

(The chairman breaks down, the audience is in uproar with unrestrained delight and admiration until the chairman restores order by singing the company song and then the national anthem in which all fervently participate.)

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NEWS

OTC strengthens its R&D program

By Noel Bennett

SYDNEY — OTC is strengthening its research and development program to help counter Australia's trade imbalance and to be prepared for any changes in the regulatory climate.

Speaking at the release of OTC's research and development report, chief of development Maurie O'Connor said Australia's "parlous" trade imbalance directly impacted OTC's costs and also the availability of suitably skilled people.

Further, the regulatory regime was becoming more and more complex with competition now allowed in the Value Added Services segment.

In addition, while OTC still retained a monopoly over reserved services, the question remained as to how long that position would hold and so the carrier had to anticipate and be prepared for change.

In essence, R&D was a key development for future strategies, involving forming links with computer technology and providing new services.

Almost 60 per cent of OTC's 1978/88 R&D expenditures of $A6 million was allocated to externally contracted research with the balance used internally. The 1988-89 expenditures have been lifted to $A8 million with about half to be spent internally. To help overcome the shortage of skilled personnel, OTC has taken a number of initiatives including providing undergraduate cadetships, promoting the cause of women undertaking engineering courses, sponsoring courses at universities and subsidising post-graduate students.

Among a range of contracts awarded, a prototype rooftop Ku band earth station for access to Intelsat Business Services is close to being completed and is now in the testing phase. This project has involved a number of companies as well as universities and institutes of technology.

The project had generated a number of spinoffs with the commercialisation of various subsystems such as modems.

Also, a number of initiatives had been taken by OTC's internal R&D team to support the carrier's efforts in submarine optical-fibre systems in the Pacific region including work, shared by the University of Sydney, on amplifying optical signals without conversion of these signals to electrical signals for amplification and regeneration in underseas repeaters.

Also, with the growing importance of the value-added services market, advanced software techniques are being applied to the development of the intelligent network concept.

Today, obsolescence is perhaps the single greatest fear to overcome when deciding on establishing or expanding your LAN.

You recognize that the data flow across your LAN is the very life blood of your company, so you need a "life line" that won't fail you today, nor be surpassed by technology tomorrow, as your company grows.

The ISOLAN range of world proven Copper and Fibre Optic Baseline Products will guarantee you always enjoy the best connection with a range that meets International Standards, including IEEE 802.3 and ISO.

Indeed, ISOLAN products are pioneering the adherence to these vital standards, ensuring you receive the best system for today, and complete peace of mind for tomorrow.

So, before you commit your company, set your own standards and insist on ISOLAN Copper and Fibre Optic Baseline Products, proudly displaying the ISOLAN IEEE 802.3 Ethernet* standards tag... security built in, for life.

Talk to Austral Data Networks today.

Your ISOLAN dealer offers a complete range of ISOLAN Copper and Fibre Optic Baseline Products for immediate delivery to you. Or, for more information phone (02) 488 8799 and talk to Paul Kelly or Glynn Jones.

Austral Data Networks 5 Bridge Street, Pymble 2073

YES! I am interested in learning more

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☐ Please send me a FREE copy of the booklet "What is a LAN?"

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*Ethernet is a registered trade name of XEROX

Local Loop

Faster retrieve

SYDNEY — Intelprop Pty Ltd is offering a comprehensive information retrieval service for people who do not wish to access databases either in Australia or overseas themselves.

A spokeswoman said that with the growing complexity and number of databases, researchers qualified and skilled in online data search techniques and the use of algorithms for fast and efficient searches could save time and money for subscribers.

ADE appointed

MELBOURNE — ADE Computer Pty Ltd, a cabling /systems Lan integrator, has been appointed the exclusive distributor for American Network Connections, US manufacturer of connection devices for small to large Ethernet Lans. The companies are aiming at the DEC value-added reseller and PC/Workstation markets in Australia.

Export boom tipped

SYDNEY — Electrodata Pty Ltd, manufacturer of electronic communication logging recorders, predicts that exports to Japan and the US could help sales to increase by 35 per cent to more than $A3 million for the present financial year.

The company has recently concluded an agreement with Mitsui to distribute its products in Japan. The products have applications in recording messages in securities and finance transactions, in public safety, and in emergency and defence areas.

Speech encryption

BRISBANE — Two Queensland Institute of Technology researchers and a Csiro scientist are working on a project to design a secure speech encryption system.

The envisaged system would be faster and cheaper than commonly used analogue scramblers which are said to have good security properties, but other disadvantages.

The pilot studies have attracted funds totalling $A13,000 and the research is given impetus by increasing concern about the security of telephone conversations as well as those on cellular mobile radio systems.

The academics involved are: from QIT, Dr Sridha Sridharan, School of Electrical and Electronic Engineering and Ed Dawson, Mathematics Department; and, from Csiro, Dr John O'Sullivan, principal research scientist, division of radio physics.

Stake in Portugal

LONDON — Agreements have been signed in Lisbon for GEC Plessey Telecommunications (GPT) to acquire equity stakes in three Portugese telecommunications companies controlled by Centrel, one of that country's leading industrial corporations.

They are part of a package of arrangements under which GPT can provide technology transfer facilities across a wide range of telecommunication products, including public switching, transmission, business systems and payphones.

The companies involved are Automatic Electrica Portuguesa SA, (AEP) Sistel; Communicacoes Automacao Sistemas SA (Sistel), and Centrel Comercial Comercio de Telematica e Electronica SA (CCSA).